



Avigilon Control Center™ Standard Client User Guide

Version 7.0

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What Is the Avigilon Control Center Client Software?

The Avigilon Control Center (ACC) Client software works with the Avigilon Control Center Server software to give you access and control of your surveillance system.

The ACC Client software allows you to view live and recorded video, monitor events, and control user access to the Avigilon Control Center system. The Client software also gives you the ability to configure your surveillance system.

The ACC Client software can run on the same computer as the Server software, or run on a remote computer that connects to the site through a local area network (LAN) or a wide area network (WAN).

What you can do in the ACC Client software depends on the site edition license. There are three editions available: Core, Standard and Enterprise. Visit the Avigilon website at avigilon.com for an overview of the features available in each edition.

System Requirements

Avigilon Certified Solution

- 2 Monitor or 4 Monitor Professional High Performance Remote Monitoring Workstation
 - Preloaded with ACC Client software.
 - Supports high resolution monitors.
 - Includes the adapters and accessories for quick deployment.
 - Includes Avigilon warranty and support.

ACC™ Client Software Requirements

System Requirement	Minimum requirements	Recommended requirements
Monitor resolution	1280 x 1024	1920 x 1200
OS*	Windows 8.1 (64-bit) or Windows 10 (64-bit), Microsoft .NET Framework 6.4.2	Windows 10 (64-bit)
CPU	Intel® dual-core CPU (2.0 GHz)	Intel® Core™ i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Video card	PCI Express®, DirectX 10.0 compliant with 256 MB RAM	NVIDIA® Quadro® K620

System Requirement	Minimum requirements	Recommended requirements
Network card	1 Gbps	1 Gbps
Hard disk space	500 MB	500 MB

* Run Windows Update before launching the ACC software.

For More Information

Visit Avigilon at [avigilon.com](https://www.avigilon.com) for additional product documentation.

Technical Support

To contact Avigilon Technical Support, go to [avigilon.com/contact-us](https://www.avigilon.com/contact-us).

Upgrades

Software and firmware upgrades will be made available for download as they become available. Check for available upgrades at: [avigilon.com/support-and-downloads](https://www.avigilon.com/support-and-downloads).

Feedback

We value your feedback. Please send any comments on our products and services to feedback@avigilon.com.

Getting Started

Once the Avigilon Control Center Client software has been installed, you can start using the High Definition Stream Management™ technology surveillance system immediately. Refer to any of the procedures in this section to help you get started.

Initial System Setup

To ensure that you have set up the ACC system correctly, it is highly recommended that you review and complete the recommended procedures in the *Initial ACC™ System Setup and Workflow Guide*. The guide is available on the Avigilon website: avigilon.com/support-and-downloads.

Starting Up and Shutting Down

The Avigilon Control Center Client software can start or be shut down at anytime without impacting video recording.

Starting Up the ACC Client Software

1. Do one of the following:
 - In the Start menu, select **All Programs** or **All Apps** > **Avigilon** > **Avigilon Control Center Client**.
 - Double-click the desktop shortcut icon .
 - From the Avigilon Control Center Admin Tool, click **Launch Control Center Client**. For more information, see the *Avigilon Control Center Server User Guide*.
2. Enter your username and password to log in to your site.

For more information, see *Logging In and Out* on the next page.

Shutting Down the ACC Client Software

1. In the top-right corner of the ACC Client software, select  > **Exit**.
2. Click **Yes**.

Logging In and Out

Logging In

When logging in to the site for the first time, the default credentials use `administrator` as the username without a password. You'll be asked to immediately enter a new password. For more information, see *Changing Your Password* below.

1. In the New Task menu , click **Site Login**.
2. Select your site from the list of connected sites.

If you don't see your site, you can manually search your network. For more information, see *Discovering Sites* on page 11.

3. Enter your credentials, or select **Use current Windows credentials** and click **Log In...**

Tip:

- If Two-Factor Authentication is required, use a TOTP authenticator app like the Google Authenticator™ mobile app to log in.

Logging Out

When you are finished using the ACC Client, log out.

1. In the top-right corner of the ACC Client, select  > **Log Out**.
2. Click **Yes**.

Changing Your Password

If it's your first time logging in to a site or your password has expired, you'll need to change it.

If you have forgotten your password, contact your administrator to reset it. For more information, see *Resetting a Password* on page 58.

Important: If you forget the administrator password, resetting it requires assistance from Avigilon Technical Support and will impact every server in the site. Create at least one other administrator-level user as a backup.

1. Enter a new password and confirm your new password.

The password must meet the minimum strength requirements, defined by how easy it is for an unauthorized user to guess.

Tip: Try entering a series of words that is easy for you to remember but difficult for others to guess.

2. Click **OK**.

Activating a Demo License

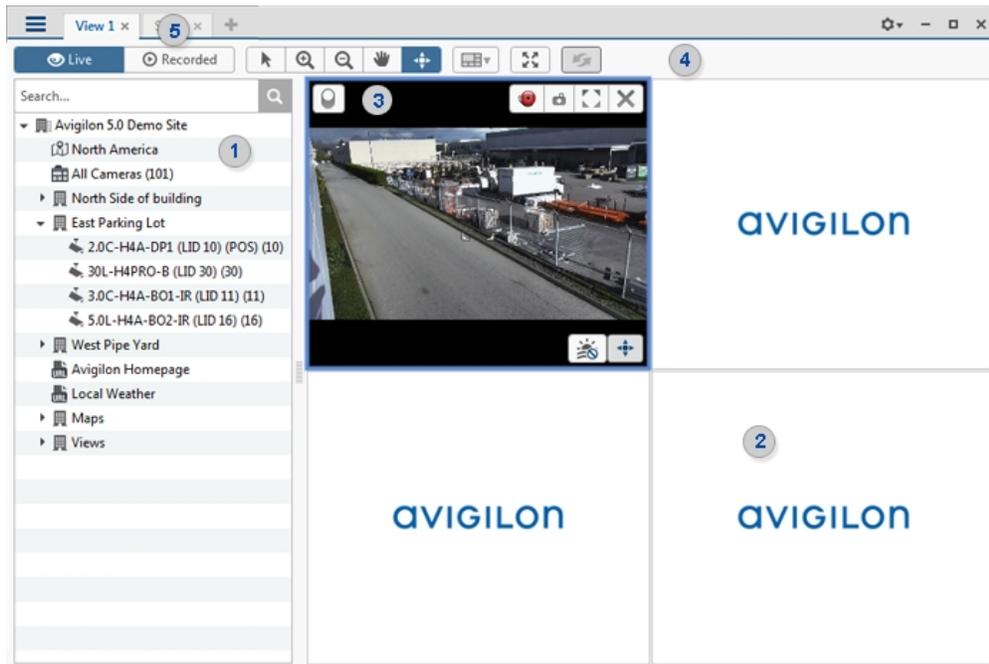
Activate a demo license to begin a 30-day trial of the ACC Client software.

Tip: Finish organizing your multi-server site before activating a license to avoid reactivating the site license each time a new server is added.

1. In the New Task menu , click **Site Setup**.
2. Select your new site, then click .
3. Click **Request Demo License...**
4. Select the preferred license edition, then click **Activate Now**.

Navigating the Software

After you log in, you can interact with devices across your site.



Application Window Features

	Area	Description
1	System Explorer	Displays all servers, devices, and views associated with your site. Use the search bar to find devices by name, location, Logical ID, IP address, or serial number.
2	View	Where you can monitor video and organize image panels. You can customize the number of image panels and cameras displayed.
3	Image panel	Displays live or recorded video. Access video controls by moving your mouse over the panel.
4	Toolbar	Provides quick access to tools that interact with video.
5	Tabs	Displays all views and tasks that are currently open. Click + to open a new View tab.
	New Task Menu	Access system settings and features, depending on your permissions.
	Application Menu	Access profile and ACC Client Settings.
	System Messages	Displays system messages that require your attention.

Area	Description
	<p>Notification color represents severity of your most recent message.</p> <ul style="list-style-type: none"> • Red — Error • Yellow — Warning • Green — Information

System Explorer Icons

Icon	Description
	Site — All connected devices and linked features are nested beneath a site.
	Virtual folder — Used to group and organize items under a View tab.
	Server — Only visible for system administrators.
	Fixed camera.
	PTZ camera.
	Avigilon Presence Detector sensor.
	Encoder — Connected to analog cameras.
AC	Access Control Manager (ACM) appliance — For ACM appliances connected to a site.
	ACM panel or subpanel.
	ACM input.
	Analytic channel used by Rialto devices.
	A saved View.
	A map.
URL	A web page.

System Management

Manage your site, storage, and devices. Add users and groups, manage permissions, and create corporate hierarchies.

Licensing the Site

You can activate, deactivate, and reactivate product or feature licenses. Licenses are called Product Keys in the ACC system, and Activation IDs in the licensing portal.

Activating a License

Once your license is activated, you can immediately use the new licensed features.

Tip: Finish organizing your multi-server site before activating a license to avoid reactivating the site license each time a new server is added.

Online Activation

If you have internet access, use online activation. However, if your site is large and contains hundreds of licenses, the server may time out. Use *Offline Activation* on the next page instead.

1. In the New Task menu , click **Site Setup**.
2. Select your new site, then click .
3. Click **Add License...**
4. Enter your product keys.

If you copy and paste more than one comma-separated product key, the system will format it automatically.

- To remove the last product key, click **Remove Last Key**.
 - To clear all the product keys, click **Clear**.
5. Click **Activate Now**.
 6. Click **OK**.

Offline Activation

Note: You need a licensing.avigilon.com account. Contact Avigilon Order Management for access.

Offline licensing involves transferring files between a computer running the ACC Client software and a computer with internet access.

In the ACC Client:

1. In the New Task menu , click **Site Setup**.
2. Select your new site, then click .
3. Click **Add License...**
4. Select the **Manual** tab.
5. Enter your product keys.

If you copy and paste more than one comma-separated product key, the system will format it automatically.

- To remove the last product key, click **Remove Last Key**.
 - To clear all the product keys, click **Clear**.
6. Click **Save File...** and choose where you want to save the `.key` file. You can rename the file as required.
 7. Copy the `.key` file to a computer with internet access.

In a browser:

1. Go to licensing.avigilon.com/activate and log in.
2. Select **Generate License**, then click **Choose File**.
3. Select the `.key` file, then click **Upload**.
4. In the success message, click **here** to download the license file `capabilityResponse.bin`.



5. Copy the `.bin` file to a computer running the ACC Client software.

In the ACC Client:

1. In the License Management dialog box, click **Apply...**
2. Select the `.bin` file and click **Open**.
3. Click **OK** to confirm your changes.

Changing Site Edition

If you use multiple editions for your site, you can select which edition license is used for the site overall.

For example, if you had a 5-channel Enterprise edition license and later added a 15-channel Standard edition license, you could change your site from Enterprise to Standard edition and use all 20 channels as Standard edition licenses instead of 5 Enterprise edition channels.

1. In the New Task menu , click **Site Setup**.
2. Select a site, then click .
3. Select an edition from the **Select Edition:** drop-down list.
4. Click **Apply**.

Deactivating a License

Note: A license can be deactivated a limited number of times. If you encounter an error while activating a previously deactivated license, this may be the issue. Contact Avigilon Technical Support for help.

You can deactivate individual licenses and activate them on a different site. For example if you are upgrading your server hardware, you can deactivate the license on the older server then activate the same license on the new server.

1. In the New Task menu , click **Site Setup**.
2. Select a site, then click .
3. Select the licenses you want to deactivate.
4. Click **Remove License...**
5. To keep a record of the license, click **Copy to Clipboard** and paste into a text file.

If you have Internet access:

- Click **Deactivate Now**.

If you do not have Internet access:

Note: You need a licensing.avigilon.com account. Contact Avigilon Order Management for access.

1. Select the **Manual** tab.
2. Click **Save File...** and choose where you want to save the `.key` file.
The license is deactivated.
3. Copy the `.key` file to a computer with internet access.

4. Go to licensing.avigilon.com/activate and log in.
5. Select **Generate License**, then click **Choose File**.
6. Select the `.key` file, then click **Upload**.

You can now reactivate the license on a new site.

Sites

Discover and manage sites, monitor site health and logs, and backup and restore site settings.

Discovering Sites

If your computer is on the same network (subnet) as a site, that site is automatically discovered and displayed in the System Explorer.

If your site is not listed, it is because the site is on a different subnet and must be manually discovered. Any number of sites can be discovered by the ACC Client software.

Tip: After you discover and log into a parent site, all child sites are automatically discovered.

By default, when a server is first connected to the system, it is added to a site with the same name. To locate a new server, you need to search for its site.

1. In the Site Login tab, click **Find Site**.
2. Enter the **IP Address/Hostname:** and the **Base Port:** of the server in the site you want to discover.

The base port is 38880 by default. You can change the base port number in the Avigilon Control Center Admin Tool. For more information, see *The Avigilon Control Center Server User Guide*.

3. Click **OK**.

If the site is found, it is automatically added to the site list.

If the site is not found, check the following before trying again:

- Network settings are configured correctly.
- Your firewall is not blocking the application.
- The Avigilon Control Center Server software is running on the server you searched for.

Naming a Site or Server

Give sites and servers meaningful names to easily identify them in the System Explorer.

1. In the New Task menu , click **Site Setup**.
2. Select a site or server, then click .
3. Enter a name, then click **OK**.

Monitoring Site Health

To help you monitor the health of your site, you can access a quick overview in the Site Health tab.

1. In the New Task menu, click .
2. In the System Explorer, select a site.

If your sites are configured into a family, you will be able to see the status of all child sites if you are logged into the parent site. If you are only logged into a child site, the parent site status is displayed as unknown.

The following status icons identify the status of each component in the ACC software:

-  The component is functioning normally.
-  The component requires your attention.
-  The component is unavailable or offline.
-  The component status is unknown.

The status icons beside each site name identifies the health of the site.

By default, all server and appliance information is displayed.

To view a specific server in a site:

- In the search bar, enter the name of the server.
Servers matching the description are displayed.

Filtering Site Information

- Below the Site Information: box, click an icon to show or hide the following:

-  General information about your server or appliance.
-  Network adapter information.
-  Server hardware information.
-  Device information.
-  Access Control Manager™ appliance information.
-  Information about servers with warnings and errors.

Exporting a Report

1. In the bottom-right corner, click **Export Site Report to PDF**.
2. Enter a report name and select a file location.
A PDF report is downloaded.

Site Information:

At the top of the tab are details about the site. This information is not displayed if the ACC ES HD Recorder or ACC ES Analytics Appliance is functioning as an independent site.

Name	Description
License Id:	The site identifier used in the Avigilon licensing server.
Site License Usage:	The number of connected cameras over the total number of licenses available in the site. For example, 3/16 would indicate the site currently has 3 camera connections but is licensed for 16.

Note: Cameras connected directly to an ACC ES HD Recorder or ACC ES Analytics Appliance are not listed in this count.

Server Name

At the top of each pane is the name of the individual server in the site. Beside the name is the server status.

General Information:

Name	Description
Server Version:	The ACC Server version number.
Server IP:	The server's IP address.
Model Name:	The server's model name. Only available if the server's SNMP service is enabled.
System Name:	The server's user-configurable name. Only available if the server's SNMP service is enabled.
Service Tag:	The server's service tag. Only available if the server's SNMP service is enabled.
CPU Load:	The percentage of server processing power that is used by the ACC Server software.
Memory usage:	The amount of memory used by the ACC Server software.
System Available Memory:	The amount of storage available for video recording.

Name	Description
Up Time:	The amount of time the server has been running since it was last rebooted.
Server License Usage:	The number of cameras currently connected to the server over the total number of licenses available in the site.

Note: Devices that do not generate video streams do not use camera licenses.

Network Adapters:

Name	Description
Adapter Name	The name of the network adapter that is connected to the server.
Status	The operational status of the network adapter.
Link Speed	The maximum speed supported by the network adapter.
IP	The IP address of the network adapter. Appears empty for network adapters that are disconnected.
Incoming	The speed of incoming data. This includes recording video.
Outgoing	The speed of outgoing data. This includes video streaming to the ACC Client software.

Hard Drives:

Only available if the server's SNMP service is enabled.

Name	Description
Disk Name	The hard disk name.
Product ID	The hard disk product number.
Serial No	The hard disk serial number.
State	The physical state of the hard disk.
Rollup Status	The overall (worst) state of the hard disk. Statuses include: <ul style="list-style-type: none"> • Other • Unknown • OK • Non-critical

Name	Description
	<ul style="list-style-type: none"> • Critical • Non-recoverable • Absent
SMART Alert	If there is a Self-Monitoring, Analysis, and Reporting Technology (SMART) Alert for the disk reliability or imminent failure, it will appear in this column.

Power Supplies:

Only available if the server's SNMP service is enabled.

Name	Description
Location Name	The power supply location in the chassis.
Status	The power supply status.
Type	The power supply type.
Sensor State	Additional information about the power supply provided by the sensor.

Cooling Devices:

Only available if the server's SNMP service is enabled.

Name	Description
Location Name	The cooling device location in the chassis.
Status	The cooling device status.
Type	The cooling device type.
State Settings	The cooling device state.

Temperature Probes:

Only available if the server's SNMP service is enabled.

Name	Description
Location Name	The temperature probe location in the chassis.
Status	The temperature probe status.
Type	The temperature probe type.
State Settings	The temperature probe state.

Devices:

Note: If a device is disconnected, the device's details may still be displayed but the Compression column will be empty because there is no video streaming.

Name	Description
General	The name, model number and location of the device. An icon displays the device connection status: <ul style="list-style-type: none"> The device is connected. The device has disconnected for less than 5 minutes. The device has disconnected for more than 5 minutes.
Network	The IP and MAC addresses of the device.
Hardware	The serial number of the device.
Compression	The video compression rate, resolution, quality and images per second (ips) of video streamed from the device.
Retained Video	The age of the oldest recorded video that is not bookmarked with a protected bookmark.

AC Access Control Manager Appliance

Feature	Description
Appliance Name:	The name of the ACM appliance.
IP:	The IP address of the ACM appliance.

Managing Site Logs

Site Logs record events that occur in the ACC software. This allows you to track system usage and diagnose issues.

You can filter the items displayed in the log and save the log to a separate file for sending to Avigilon support.

If an Access Control Manager appliance is connected to your site, you can track access control objects like doors and inputs.

Note: The Site Logs maintain a record of system events for as long as video data is available or 90 days, whichever is longer.

1. In the New Task menu, click .
2. In the top-left Event Types to Show: area, select the types of logs that you want to see.
3. In the Event Sources: area, filter the logs by selecting the specific site, server, or device logs you want to see.

If an ACM appliance is connected to your site, you can also filter by access control objects.

Note: The available access control objects depend on your permissions in the ACM appliance. Contact your ACM administrator to update your permissions.

4. In the Time Range to Search: area, set the date and time range of the search.
5. Click **Search**.
6. Select a search result to display the event details at the bottom of the tab.
7. To save the log search results, click **Save events to file...** You can choose to save the search results as a text file or a comma-separated values (CSV) file.

Backing Up Site Settings

Note: Backup files can only be restored on sites that are running the same or later version of the ACC Server software.

Back up site and server configuration settings to apply them to a second site, or restore them in the event of an unexpected system failure.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. Select the server that you want to back up. Site settings are automatically included in the backup file.
4. Select the **Encrypt the backup file** check box. Enter and confirm a password.

If this encryption password is lost, the file will not restore any system settings.

5. Click **OK**.
6. Name and save the file.

The backup file is saved in Avigilon Settings File (.avs) format.

Restoring Site Settings

Note:

- You cannot restore settings from your 5.2.2 or earlier server through this version of the ACC Client software.
- Make sure the new site is licensed to run the same features as the previous site.

If you have a backup Avigilon Settings File (.avs), you can restore the settings after a server replacement or while setting up an independent site.

When you restore settings, existing settings are overwritten. When site settings are restored, the settings are merged with previous settings.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. Select the .avs file that you want to restore.
4. If the backup file is encrypted, enter the password.
5. Select the settings you want to restore.
 - **Restore site and server settings** — Restores all settings in the site and the selected server.
 - **Restore server settings** — Restores all settings to the selected server.
 - **Use custom settings** — Lets you specify the settings that you want to restore.

Some custom settings have dependencies that may cause unexpected issues if they are not supported by the server.

6. Select the server you want to restore.

Only select servers from the Recommended Servers list. Servers in this list do not have any existing device connections. Restoring settings to a server not listed may overwrite existing device connections or cause the system to exceed its license and processing limits.

7. Click **OK**.

If you restored the site settings, settings will merge:

- Unique settings are added to the site.
- If the settings are identical, only the current site version is kept.
- If an import setting and a site setting have the same name but are configured differently, the import setting is added to the site and renamed in this format: <setting name> (Import), like Email1 (Import).
 - In the rules engine, the Notify users (default) rule is always added and renamed, even if the settings are the same. The import version is enabled and the site version is disabled by default.

- The two site Views are combined.
 - The import settings take precedence.

For example, a map from the import file is already used in the site. Currently, the map is stored at the top of the site View. But in the import file, the map is kept at the bottom. After the import settings are merged with the current site settings, the map is moved to the bottom.
 - Unorganized elements from the import file are listed at the bottom of the site View.
- User permission groups are merged.
 - If groups have the same name, the import settings are used and the users from both the import file and the current site are added to the group.
 - If the site supports new permissions that are not available in the import file, the new permissions are disabled by default for the imported group.
 - Default group settings (i.e. Administrators, Power Users, Restricted Users, Standard Users) will use the default site settings for permissions that are not available in the import file.
 - Groups added from the import file automatically gain access to all the new devices that were added since the settings were exported.
- Users with the same name will use the import settings, including passwords.

Servers and Storage

Configure recording settings to manage your storage usage.

Recording and Bandwidth

While the Recording Schedule settings define what and when cameras record, the Recording and Bandwidth settings define how long recorded video is stored. This affects Tier 1 storage, and is referred to as Data Aging. Data aging only occurs when the storage is 100% full.

In Recording and Bandwidth you can change the data aging settings and set the maximum record time for each connected camera. The amount of data aging that is available depends on the cameras connected.

- For JPEG2000 or JPEG compression cameras, data aging is available at three rates:
 - **High Bandwidth** — Records at original quality.
 - **Half Image Rate** — Records half of the data to make room for new recordings.
 - **Quarter Image Rate** — Records a quarter of the original data, allowing you to still view older video.
- H.265 and H.264 cameras that support data aging, are available at two rates:

- **High Bandwidth** — Keep the original high quality video and a secondary low resolution stream.
- **Low Bandwidth** — Only keep the secondary stream of low resolution video.

Note: Data aging only occurs when the secondary stream is enabled.

- For H.265 and H.264 cameras that do not support data aging, only the **High Bandwidth** video is kept.

By default, the system is set to keep recorded video for the maximum amount of time based on the available storage.

At the bottom of the Recording and Bandwidth you'll find the following statement:

Total record time estimate is based on constant recording

The retention time is determined by the **Max. Record Time** setting and the average camera data rate. Since the system can only provide an estimate of the data rate for the full retention period, the actual retention time may exceed the Max. Record Time setting.

Configuring Data Aging

Note: When setting up data aging to work with Storage Management Continuous Archive, make a note of the lowest data aging setting. Your lowest setting must be greater than what you entered for Archive video older than:. This ensures that archiving starts before data is deleted on the local ACC Server.

1. In the New Task menu , click **Site Setup**.
2. Select a server, then click .

The Data Aging column shows an estimate of the recording time that is available at each image rate, given the amount of space on the recording device.

3. In the Data Aging column, move the sliders to adjust the amount of video that is stored at each image rate.
 - To change the data aging settings for all linked cameras, move the slider for one linked camera and all linked cameras will be updated.
 - To change the data aging setting for one camera, break the camera's link to other cameras by clicking the  icon to the left of its name, then make your changes.

- In the **Max. Record Time** column, manually enter a maximum record time or select one of the options from the drop-down list for each camera.

Note: If the time estimated in Total Record Time is significantly shorter than the Max. Record Time, the camera's actual recording time will be closer to the Total Record Time estimate. The total recording time assumes continuous recording, and will increase with a Recording Schedule.

- Click **OK**.

Manual Recording Setup

When manual recording begins in an image panel, you are telling the camera to record video outside of its recording schedule. Manual recording continues until it is stopped, or until the maximum manual recording time is reached.

To set the maximum manual recording time, follow these steps:

- In the camera Setup tab, click .
- Define the following:
 - Manual Recording Duration:** — How long before recording is triggered should the camera record.
 - Pre-Trigger Record Time:** — How much time should be recorded before recording is activated.

Click **Apply to Devices...** to apply the same settings to other cameras of the same model.

- Click **OK**.

To learn how to start recording, see *Manually Recording Video* on page 102.

Setting Up a Weekly Recording Schedule

You can set up a weekly recording schedule by applying templates to cameras for each day of the week.

- In the New Task menu , click **Site Setup**.
- Select a server, then click .
- Select a template from the Templates: list.
- In Default Week, click the days your template will cover for each camera on your site.

Default Week							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
5.0L-H4A-B2(1008185)	Weekend	Default	Default	Default	Default	Default	Weekend

- Click **OK**.

Recording Schedule Templates

The recording schedule is set using templates that instruct cameras on what to record and when. For example, you can create one template for weekends and another for weekdays.

Adding a Template

1. In the New Task menu , click **Site Setup**.
2. Select a server then, click .
3. In the Templates: area, click **Add Template**.
4. Enter a name for the **New Template**.
5. Click the **Set Area** button, then click or drag the cursor across the **Recording Mode**: timeline to set the types of events cameras will record. Individual rectangles on the Recording Mode: timeline are colored when they have been selected.

The **Recording Mode**: options include:

- **Continuous** — Records video constantly.
 - **Motion** — Records video when motion is detected.
 - **Digital Inputs** — Records video when a digital input is activated.
 - **POS Transactions** — Records video when a point of sale (POS) transaction is made.
 - **License Plates** — Records video when a license plate is detected.
6. To disable recording in parts of the template, click **Clear Area**, then click or drag the cursor across the timeline to remove set recording periods.
 7. If cameras are not recording in Continuous mode all day, you can set cameras to record reference images between events in the recording schedule.
 - Select the **Record a reference image every**: check box and set the time between each reference image.

Editing and Deleting a Template

1. In the Setup tab, select the server you want to edit and click .
2. Select a template from the Templates: pane and do one of the following:
 - To edit a template, modify the schedule.
 - To rename a template, click **Rename Template** and enter a new name.
 - To delete a template, click **Delete Template**.
3. Click **OK**.

Failover Connections

When connecting devices, you have the option to assign a failover connection to a backup server. This connection allows a device to continue recording if connection to the primary server fails.

Note: Failover connections can only be made between servers within the same site. When a failover connection is made, a single failover license is required for each camera.

Each device can be connected to multiple servers. The **Connection Type:** determines when the device will connect.

- **Primary:** — Devices automatically connect to this server when on the same network.
- **Secondary:** — When the Primary server is not available, the device will connect to this server.
- **Tertiary:** — When the Secondary server also fails, the device will connect to this server.

The **License Priority:** sets the order that devices will connect to a server — **1** is highest and **5** is lowest. If the server does not have enough camera failover licenses, low priority devices may not connect.

Editing Failover Connections

1. In the New Task menu , click **Site Setup**.
2. Select your site and click **Connect/Disconnect Devices** .
3. Select a connected device, then click **Edit...**
4. Select the relationship you want to edit in **Change on server:**.
5. Update the **Connection Type:** to Primary, Secondary, or Tertiary.

Note: If you select Secondary or Tertiary, update the **License Priority:**.

6. Click **OK**.

Failover Examples

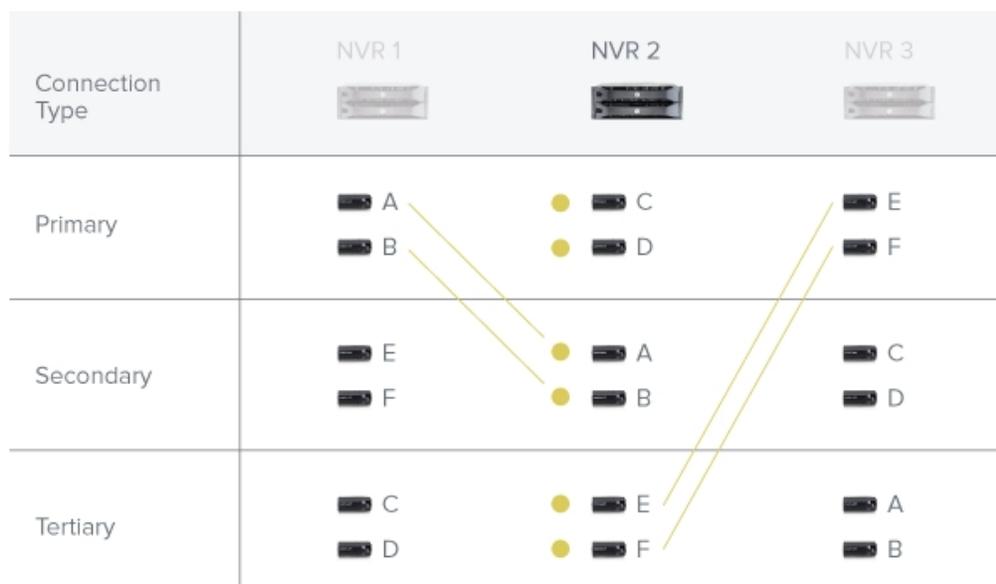
Cameras A, B, C, D, E and F have failover connections set to two different servers. For this example, the site has 6 camera channel licenses with 4 failover licenses, and the license priority is set to 1 for each connection.

Connection Type	NVR 1 	NVR 2 	NVR 3 
Primary	●  A ●  B	●  C ●  D	●  E ●  F
Secondary	 E  F	 A  B	 C  D
Tertiary	 C  D	 E  F	 A  B

When NVR 1 fails, cameras A and B from NVR 1 automatically connect to their Secondary server, NVR 2.

Connection Type	NVR 1 	NVR 2 	NVR 3 
Primary	 A  B	●  C ●  D	●  E ●  F
Secondary	 E  F	●  A ●  B	 C  D
Tertiary	 C  D	 E  F	 A  B

When NVR 3 fails, cameras E and F automatically connect to their Tertiary server, NVR 2.



Upgrading Servers and Appliances Remotely

Note:

- NVR servers must run ACC Server version 5.6 or later.
- ACC ES Recorders must run ACC Server version 5.8 or later.
- Avigilon video analytics appliances must run ACC Server version 6.0 or later.

You can remotely upgrade all servers using the ACC Client software rather than updating each server at its physical location.

Set up failover connections before performing an upgrade to maintain a video connection during the update. This allows cameras to connect to a secondary or tertiary server while the primary server restarts. For more information, see *Failover Connections* on page 22.

Tip: Between each step during Site Upgrade, you can close the dialog box and continue regular operations.

1. Download the latest version of the ACC Server software or Avigilon video analytics appliance firmware from [avigilon.com](https://www.avigilon.com).
2. In the ACC Client software, log in to your site.
3. In the Site Setup tab, click .

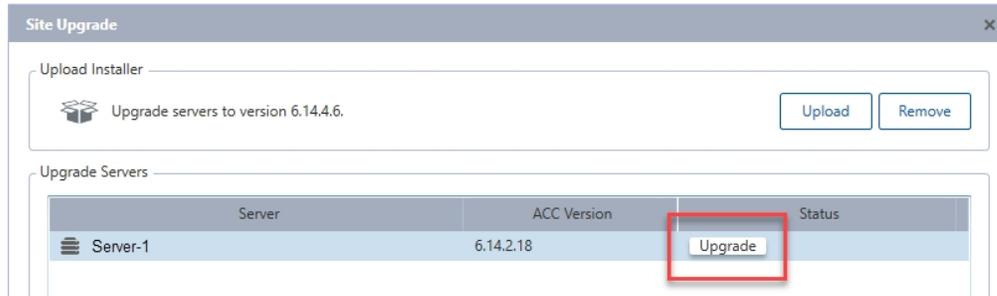
If the site contains an ES camera, recorder, or an Avigilon video analytics appliance, the model number is displayed in the Platform column.

4. In the top-right corner, click **Upload** and open the downloaded installer.
5. Confirm the correct installer was used and click **OK**.

The installer will be uploaded to one server and then distributed to other servers in the site. This process may take several moments.

When the installer has been distributed to each server in the system, the Status column will display an Upgrade button.

6. In the Status column, click **Upgrade**.



7. Click **OK** to reboot the server.

During the reboot, the server will disappear from the list until it reconnects with the system.

You may need to log back in to the site to see the upgrade progress.

To maintain secondary or tertiary connections, wait for each server to complete its upgrade before starting another server.

8. Repeat steps 6 and 7 for each server in the site.

Removing an Upgrade Installer

If you've uploaded the wrong installer to the site, you can remove the installer before the upgrade is complete.

1. In the Site Setup tab, click .
2. Click **Remove**.
3. Click **OK**.

The upgrade installer will be deleted from the system.

Devices

Discover, connect, and manage devices.

Discovering a Device

Avigilon and ONVIF® compliant devices that connect to the same network as the ACC Server will be automatically detected and added to the Discovered Devices list .

If a device is not automatically discovered, it may be on a different subnet or is a third-party camera that must be manually discovered.

1. In the site Setup tab, click .
2. In the top-left corner, click **Find Device....**
3. Fill the following fields to find a device:
 - **Search From Server:** — Selects a server to connect to.
 - **Search Type:**
 - **IP Address** — Discover the device by IP address or hostname. The device and server's gateway IP must be set correctly for the device to be found.
 - **IP Address Range** — Discover the device by searching within an IP address range.
 - **Device Type:** — Select the device brand.

Tip: Selecting ONVIF will discover ONVIF compliant devices.

- **Control Port:** Enter the device control port. The default port number is 55080.
 - If required, enter the device's **User Name:** and **Password:**.
4. Click **OK**.

Added devices automatically appear in the Discovered Devices list. You can now connect the device to a server.

ONVIF is a trademark of Onvif, Inc.

Connecting a Device to a Server

Note: Some features are only available if the site has the required license, and if you have the required user permissions.

To access a device, it must be connected to a server within your site. After a device has been discovered on the network, it can be connected to the server. If you can't see your device, see *Discovering a Device* on the previous page.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. In the Discovered Devices area, select the devices and click **Connect...**

Tip: You can also drag devices to a server in the Connected Devices area.

4. Select which server will connect to the device.

Note: If you are connecting multiple devices, all cameras must use the same connection settings.

5. Connect third-party devices using their native drivers. In the **Device Type:** drop-down list, select the device's brand name. The system may only support one type of driver from the device.
6. If the camera supports a secure connection, the **Device Control:** drop-down list is displayed. Select one of the following options:

- **Secure** — This default protects and secures the camera configuration and login details.
- **Unsecure** — The camera configuration and login details may be accessible to users with unauthorized access.

Cameras with a secure connection are identified with the  icon.

7. In the **Network Type:** drop-down list, select **LAN** or **WAN**.

Select the WAN network type to connect cameras on your local network if the Internet Control Message Protocol (ICMP) is blocked or disabled.

8. In the Site View Editor, choose where to display your device in the System Explorer. If it is not displayed, click .

- If your site includes folders, select a location for the device in the left pane.
- In the right pane, drag devices to set where they are displayed.
- If you are connecting multiple devices at the same time, the devices must be assigned to the same location.

Tip: If your preferred site is not listed, temporarily connect the device to a different server that is connected to the site you want.

9. Click **OK**.
10. If the device is password protected, enter the device's username and password, then click **OK**.

Disconnecting a Device from a Server

1. In the site Setup tab, click .
2. Select the device you want to disconnect from the Connected Devices list, then do one of the following:
 - Click **Disconnect**. The device will be disconnected from the server and moved to the Discovered Devices list.
 - Drag the device into the **Discovered Devices** list.

Replacing a Device

Important: Only permanently damaged or defective devices should be replaced.

You can replace a device with a similar one and transfer its recorded video in the ACC system.

Devices should be replaced with similarly capable devices. For example, if a fisheye camera malfunctioned, you could install a new fisheye camera in its place. After installation, the replacement device will automatically sync with the original device's recorded video. However, if a video analytics camera is replaced with a fisheye camera, previously recorded video will appear warped.

Note: During regularly scheduled maintenance, disconnect the original device and connect a temporary replacement. For more information, see *Disconnecting a Device from a Server* on the previous page and *Connecting a Device to a Server* on page 27.

The replacement device will maintain the following settings:

- Recorded and archived video
- Rules
- Alarms
- Events
- Bookmarks
- Maps

You may need to reconfigure the device's image rate and compression settings or update its motion detection area. If the replacement device has self-learning video analytics, is linked to ACM doors, or is used for POS transactions, reconfigure those settings.

1. Uninstall the original device and install the replacement device.
2. In the site Setup tab, click .
3. In the Discovered Devices area, select the replacement device then click **Replace**.
4. Select the disconnected device you want to replace.
5. Click **OK**.

The replacement device syncs with the original device's recorded video and settings.

Always uninstall the original device before replacing it in the ACC system. If you replace a device but did not disconnect the original device from the network, you may receive a connection error if the original device comes online. If this happens:

1. Disconnect both the replacement and original devices from the ACC system.
2. Perform a factory reset on each device.
3. Connect each device to the ACC system as described in *Connecting a Device to a Server* on page 27.

Rebooting a Device

You can restart all Avigilon devices through the device's General settings. This feature is not available for third-party devices.

1. In the device Setup tab, click .
2. Click **Reboot Device...**

The device will disconnect from the Avigilon Control Center system and shut down. When the device starts up again, the device will automatically reconnect with the server.

Device Network Settings

Use the device Network settings to change how a device connects to the server network.

Note: Some features are only available if the site has the required license, and if you have the required user permissions.

1. In the device Setup tab, click .
2. Select how the device obtains an IP address:
 - **Obtain an IP address automatically:** — The device will connect to the network through an automatically assigned IP address.

The device will attempt to obtain an address from a DHCP server. If this fails, the device will obtain an address through Zero Configuration Networking (Zeroconf) and select an address in the 169.254.0.0/16 subnet.
 - **Use the following IP address:** — Manually assign a static IP address to the device.

Enter the **IP Address**:, **Subnet Mask**:, and **Gateway**: you want the device to use.
3. Select the **Control Port**: for connecting to the device. This port is also used for manually discovering the device on the network.
4. Click **OK**.
5. For Rialto Video analytics appliances, allow the system to restart the device.

Upgrading Camera Firmware

Camera firmware updates are typically included with the ACC Server update packages and are automatically downloaded and installed to the camera.

While a camera is being upgraded,  is displayed beside the camera name. During the upgrade, video will not display.

After the upgrade is complete, the System Explorer will display  again and video from the camera will resume.

Changing from LAN to WAN

The ACC Server will not be able to detect connected cameras in LAN mode if the Internet Control Message Protocol (ICMP) on your network is disabled or blocked.

Change the camera's network type to WAN mode before disabling ICMP to keep cameras connected to the server.

1. In the site Setup tab, click .
2. Select the device connections you want to edit from the Connected Devices list.
3. Click **Edit...**
4. In the Network Type: drop-down list, select **WAN**.
5. Click **OK**.

Device Configuration

Update compression and display settings, add privacy zones, and configure linked devices.

Setting a Device's Identity

In a device's General settings, you can give the device a name, describe the location, and give the device a Logical ID. Logical IDs allow easier keyboard and joystick control.

Note: Certain options are only available if supported by the device.

1. In the New Task menu , click **Site Setup**.
2. Select a device and click .
3. In the **Device Name:** field, enter a meaningful name to easily identify it. By default, the device name is its model number.
4. In the **Device Location:** field, describe the device location.

5. In the **Logical ID:** field, enter a unique number to allow the ACC Client software and integrations to identify this device. By default, the device's Logical ID: is not set and must be manually added.

Tip: If **Display Logical IDs** is enabled in ACC Client Settings, the device's Logical ID will appear beside the device's name in the System Explorer.

6. To disable the LEDs on a camera, select the **Disable device status LEDs** check box. This may be required if the camera is installed in a covert location.
7. Click **OK**.

Changing the Camera Operating Priority

Note: Certain options are only available if supported by the device.

Depending on the scene, you may want the camera to maintain a specific frame rate rather than use all available features.

Choose what the camera should prioritize during normal operations.

1. In the device Setup tab, click .
2. From the **Mode:** drop-down list, select one of the following:
 - **High Framerate** — the camera will hold the preferred image rate as the priority.
The camera will stream at the configured image rate even if it is unable to use other features supported by the camera. Depending on the camera model, disabled features may include self-learning video analytics, Wide Dynamic Range (WDR), and edge storage.
 - **Full Feature** — the camera will maintain the function of all supported features as the priority.
The camera will dedicate more processing power towards maintaining the function of its key features, and use an optimized image rate. Depending on the camera feature, the image rate may be capped down to less than half the configured image rate.
3. Click **OK**.

Compression and Image Rate

Use the camera Compression and Image Rate settings to modify the camera's frame rate and image quality sent over the network.

For more compression and image rate options, see *Enabling HDSM SmartCodec™ Technology* on page 35, *Enabling Idle Scene Mode* on page 36, and *Manually Adjusting Recorded Video Streams* on page 34.

Note: Certain options are only available if supported by the device.

1. In the New Task menu , click **Site Setup**.

2. Select a camera, then click .

Total Camera Bandwidth: gives an estimate of the bandwidth used by the camera with the current settings.

Note: For cameras capable of maintaining multiple streams, these settings only affect the primary stream.

3. In the **Format:** drop-down, select the preferred streaming format.

4. Move the **Image Rate:** slider to select the number of images per second (ips) you want the camera to stream.

For H.265 and H.264 cameras and encoders, the image rate must be divisible by the maximum image rate. If you set the slider between two image rate settings, the application will round to the closest whole number.

5. In the **Image Quality:** drop-down list, select an image quality setting. An image quality setting of **1** will produce the highest quality video and require the most bandwidth. The default setting is **6**.

6. In the **Max Bit Rate:** field, select the maximum bandwidth the camera can use in kilobits per second (kbps).

7. In the **Resolution:** drop-down list, select the preferred image resolution.
For thermal cameras, use the default resolution for enhanced video quality.

8. In the **Keyframe Interval:** drop-down list, enter the preferred number of frames between each keyframe. It is recommended to have at least one keyframe per second.

To help you determine how frequently keyframes are recorded, the Keyframe Period: area tells you the amount of time that passes between each recorded keyframe.

9. If your camera supports multiple video streams, select the **Enable Low Bandwidth Stream** check box. Depending on your version of the software, the check box may also be called "Enable secondary stream".

When enabled, the lower resolution video stream is used by the HDSM™ technology feature to enhance bandwidth and storage efficiencies.

10. Click **Apply to Devices...** to apply the same settings to other cameras of the same model.

11. Click **OK**.

Manually Adjusting Recorded Video Streams

Avigilon and third-party ONVIF compliant cameras support the configuration of secondary stream compression settings.

If you have a 1-3 megapixel Avigilon H4 HD camera, you also have the option of manually adjusting the primary and secondary video stream, or allowing the system to automatically use HDSM technology. HDSM technology allows ACC software to automatically record both the primary and secondary stream so that the system can intelligently adjust video bandwidth and storage efficiencies to meet your requirements.

If local regulations require a specific video stream be recorded or have a minimum resolution, you can manually adjust the settings.

1. In Compression and Image Rate select the preferred bandwidth you want the camera to record from the Recording Profile: drop-down list. From the Recording Profile: drop-down list, select Record High Bandwidth or Record Low Bandwidth. Selecting Record High Bandwidth enables streaming and the recording of the High Bandwidth Stream, while viewing the live low profile stream.

Note: The option for selecting Record High Bandwidth or Record Low Bandwidth is applicable to third-party ONVIF compliant cameras only.

The High Bandwidth Stream is automatically disabled for recorded video but the settings are still available for you to configure the live video stream. The Low Bandwidth Stream settings are enabled.

2. The default HDSM Auto option allows the system to use the HDSM feature for viewing live and recorded video. If you are using the Manual setting, HDSM technology is disabled for recorded video but is still used for live video streams. If you are using the Flexible setting, HDSM technology is enabled for recorded video and can still be used for live video streams. Selecting the Flexible setting only enables the control in the **Max Bit Rate:** field and the **Resolution:** drop-down list.
3. If you need to adjust the live video stream, change the High Bandwidth Stream settings first.

The High Bandwidth Stream settings are used to optimize the Low Bandwidth Stream settings, so some of the settings may change depending on your settings for the High Bandwidth Stream.

4. If it is not displayed, click  to display the Low Bandwidth Stream settings.

If you prefer to record a higher resolution video, clear the **Enable Low Bandwidth Stream** check box and adjust the High Bandwidth Stream settings.

5. In the **Resolution:** drop-down list, select the preferred image resolution.
6. In the **Image Rate:** bar, move the slider to select the number of images per second (ips) you want the camera to stream over the network.
7. In the **Image Quality:** drop-down list, select an image quality setting. An image quality setting of **1** will produce the highest quality video and require the most bandwidth. The default setting is **6**.
8. In the **Max Bit Rate:** field, select the maximum bandwidth the camera can use.

9. In the **Keyframe Interval:** drop-down list, enter the preferred number of frames between each keyframe. It is recommended that you have at least one keyframe per second.

To help you determine how frequently keyframes are recorded, the Keyframe Period: area tells you the amount of time that passes between each recorded keyframe.

10. Click **Apply to Devices...** to apply the same settings to other cameras of the same model.
11. Click **OK**.

The changes immediately take effect. The ACC Client software will continue to use HDSM technology to manage the display of live video, but recorded video will only display the configured video stream.

The data aging settings in the Recording and Bandwidth dialog box update to reflect the new recording profile settings.

Enabling HDSM SmartCodec™ Technology

Note: Only available to cameras that support this feature.

HDSM SmartCodec technology operates by separating foreground objects from the background image, then reduces bandwidth by increasing compression to the background image. In this way, higher quality image is retained for objects of interest in the foreground while reducing bandwidth for static backgrounds. When there is no motion in the scene, HDSM SmartCodec feature switches the camera into idle scene mode to increase bandwidth savings when there are no objects of interest.

HDSM SmartCodec feature uses the camera's motion detection area to help define when it should switch to idle scene mode. You can configure the motion detection area from the Motion Detection dialog box. For more information, see *Motion Detection Events* on page 77.

1. In the Compression and Image Rate dialog box, select the **Enable HDSM SmartCodec** check box.

If HDSM SmartCodec settings do not appear, click .

2. In the **Bandwidth Reduction:** drop-down list, select Low, Medium, High, or Custom.

If the scene background does not provide any valuable information, for example a white hallway, choose **High** to enhance bandwidth savings. If the scene background involves more movement, for example a traffic intersection, choose **Low**. This setting provides you with some bandwidth savings, while maintaining enough background clarity to see events in full context.

3. In the **On Motion:** section, choose the preferred **Background Image Quality:** option.

An image quality setting of **1** will produce the highest quality background image but require the most bandwidth.

When motion activity is detected, the foreground areas of the video are streamed and recorded using the High Bandwidth Stream settings while the background areas use the Background Image Quality: setting.

4. In the **On Idle Scene:** section, enter the **Post-Motion Delay:** setting in seconds. This field defines how long the scene must be idle before it switches to idle scene mode.
5. In the following **Image Rate:** bar, move the slider to select the number of images per second (ips) you want the camera to stream while the scene is idle.
6. In the **Image Quality:** drop-down list, select the video image quality when the camera is in idle scene mode. This setting is applied to the foreground and background image.
7. In the **Max Bit Rate:** field, select the maximum bandwidth the camera can use in this mode.
8. In the **Keyframe Interval:** drop-down list, enter the preferred number of frames between each keyframe.

To help you determine how frequently keyframes are recorded, the **Keyframe Period:** area tells you the amount of time that passes between each recorded keyframe.

9. Click **OK** to save your settings.

Enabling Idle Scene Mode

Note: Only available to cameras that support this feature.

Idle scene mode records video at a different frame rate and quality if there are no motion events detected in the scene. This lowers the bandwidth and storage used when the scene is idle. When motion events are detected, the camera automatically switches back to standard streaming mode.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. Select the **Enable Idle Scene Mode** check box.
4. In the **Post-Motion Delay:** field, enter the amount of time in seconds the scene must be idle before it switches to idle scene mode.
5. Move the **Image Rate:** slider to select the number of images per second (ips) you want the camera to stream while the scene is idle.
6. In the **Image Quality:** drop-down list, select the video image quality when the camera is in idle scene mode.
7. In the **Max Bit Rate:** field, select the maximum bandwidth the camera can use in this mode.
8. In the **Keyframe Interval:** drop-down list, enter the preferred number of frames between each keyframe.

To help you determine how frequently keyframes are recorded, the Keyframe Period: area tells you the amount of time that passes between each recorded keyframe.

9. Click **OK** to save your settings.

Image and Display Settings

Note: Certain options are only available if supported by the device.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. Use the focus controls to focus the camera. For more information, see *Zooming and Focusing the Camera Lens* on page 71.
4. Click  to toggle the Auto Contrast Adjustment. This change does not affect recorded video or video displayed in other views. By default, Auto Contrast Adjustment is off.
5. If the camera supports day/night control, select one of the following options from the **Day/Night Mode:** drop-down list:
 - **Automatic** — The camera controls the infrared (IR) cut filter based on the amount of light in the scene.

If available, move the **Day/Night Threshold:** slider to set the exposure value (EV) when the camera changes from day to night mode.
 - **Day Mode** — The camera will only stream in color and the IR cut filter is disabled.
 - **Night Mode** — The camera will only stream in monochrome and the IR cut filter is enabled.
6. Adjust the camera's image settings to best capture the scene. A preview of your changes are displayed in the image panel and the histogram.

Tip: **Maximum Exposure:**, **Maximum Gain:**, and **Priority:** control low light behavior.

Option	Description
Synchronize Image Settings with All Heads	Apply the same image settings to all camera heads. Zoom and focus settings must be set individually.
Exposure:	Let the camera control the exposure by selecting Automatic , or set a specific exposure rate. Increasing the manual exposure time may affect the image rate.
Iris:	Let the camera control the iris by selecting Automatic , or manually set it to Open or Closed .
Maximum Exposure:	Limit the automatic exposure setting by selecting a Maximum Exposure: level. By setting a Maximum Exposure: level for low light situations, you can

Option	Description
Maximum Gain:	<p>control the camera's exposure time to let in the maximum amount of light without creating blurry images.</p> <p>Limit the automatic gain setting by selecting a Maximum Gain: level.</p> <p>By setting a Maximum Gain: level for low light situations, you can maximize the detail of an image without creating excessive noise in the images.</p>
Color Palette:	<p>Change how information captured from thermal cameras is represented by selecting a Color Palette:</p> <p>WhiteHot – Grayscale. White represents hot, black represents cold.</p> <p>BlackHot – Grayscale. Black represents hot, white represents cold.</p> <p>Rainbow – Multicolor. Red represents hot, blue represents cold.</p>
Priority:	<p>Select Image Rate or Exposure as the priority.</p> <p>When set to Image Rate, the camera maintains the set image rate as the priority and will not adjust the exposure beyond what can be recorded for the set image rate.</p> <p>When set to Exposure, the camera maintains the exposure setting as the priority and overrides the set image rate to achieve the best image possible.</p>
Flicker Control:	<p>If your video image flickers because of the fluorescent lights around the camera, reduce the effects by setting the Flicker Control: to the same frequency as your lights. Generally, Europe is 50 Hz and North America is 60 Hz.</p>
Backlight Compensation:	<p>If your scene has areas of intense light that cause the overall image to be too dark, move the Backlight Compensation: slider until you achieve a well exposed image.</p>
Enable Wide Dynamic Range	<p>Select this check box to enable automatic color adjustments through WDR. This allows the camera to adjust the video image to accommodate scenes where bright light and dark shadow are clearly visible.</p>
Enable Adaptive IR Compensation	<p>Select this check box to enable automatic IR adjustments through Adaptive IR Compensation. This allows the camera to automatically adjust the video image for saturation caused by IR illumination.</p>
Saturation:	<p>Move the slider to adjust the video's color intensity until the video image meets your requirements.</p>
Sharpening:	<p>Move the slider to adjust the video sharpness to make the edges of objects more visible.</p>

Option	Description
Image Rotation:	Change the rotation of captured video by 90, 180, or 270 degrees clockwise.
White Balance	Control white balance settings to adjust for differences in light. Let the camera to control the white balance by selecting Automatic White Balance , or select Custom White Balance to manually set the Red: and Blue: settings.

Click **Apply to Devices...** to apply the same settings to other cameras of the same model.

7. Click **OK**.

Image Dimensions

Note: This feature is only available for JPEG2000 cameras.

Use the Image Dimensions dialog box to set the image dimensions for the camera. You can crop the video image to help reduce bandwidth and increase the maximum image rate.

1. In the camera Setup tab, click .

The Image Dimensions dialog box is displayed.
2. Adjust the image dimensions by doing one of the following:
 - Drag the edges of the image until the video is cropped to fit your requirements.
 - Change the values for the **Top:**, **Left:**, **Width:**, and **Height:** fields.
3. Click **OK**.

Privacy Zones

You can block the camera's field of view to protect privacy and personal information in live and recorded video.

Adding a Privacy Zone

1. In the New Task menu , click **Site Setup**.
2. Select a camera and click **Privacy Zones** .
3. Click  and resize the green privacy box.
4. Click **OK**.

Editing Privacy Zones

1. In the New Task menu , click **Site Setup**.
2. Select a camera and click **Privacy Zones** .
3. Click on a privacy zone and adjust the green box, or click  to delete the zone.
4. Click **Apply** to refresh the view and **OK** to finish editing.

Configuring PTZ

Note: Certain options are only available if supported by the device.

Use the camera General settings to enable and configure the motorized pan, tilt, zoom (PTZ) for Avigilon cameras. PTZ devices are connected to Avigilon cameras through RS-485 inputs.

Third-party PTZ camera controls cannot be configured through the Avigilon Control Center software.

1. In the camera Setup tab, click .
2. Select the **Enable PTZ controls** check box.

Note: If the features described in the following steps are not displayed, the camera only has a motorized zoom and focus lens. You will be able to control the zoom and focus settings through the PTZ Controls pane but other PTZ controls will not be available.

3. In the **Protocol:** drop-down list, select the appropriate PTZ protocol. The available protocols include:
 - AD Sensormatic
 - AXSYS
 - AXSYS DCU
 - Ernitec ERNA
 - Honeywell Diamond
 - Kalatel ASCII
 - Pelco D
 - Pelco P
 - TEB Ligne
 - Videotec MACRO

- Videotec Legacy
 - Vicon extended
 - Vicon normal
 - JVC JCBP
4. Enter the **Dip Switch Address:**, **Baud Rate:**, and **Parity:** for the PTZ device.
 5. Click **OK**.

Once PTZ has been configured, you can use the camera's PTZ Controls while you watch the camera's live video stream. For more information, see *Controlling PTZ Cameras* on page 105.

Configuring Digital Inputs

Note: Certain options are only available if supported by the device.

1. In the device Setup tab, click .
2. In the **Digital Inputs:** area, select an input.
3. Enter a **Name:** for the digital input.
4. In the **Recording Duration:** area, select one of the following:
 - Select **Follow event** to record the entire digital input event.
 - Select **Maximum time:** to limit the recording time.
5. Enter the **Pre-Event Record Time:** and **Post-Event Record Time:**.
6. Select the digital input's default **Circuit State:**.
7. Select cameras to link to this digital input.

If the Recording Schedule is configured to record digital inputs, the cameras selected in the **Link to Camera(s):** area are used to record the events triggered by this digital input.

8. Click **OK**.

Configuring Digital Outputs

Once a digital output is configured, you can manually trigger the digital output in an image panel. For more information, see *Triggering Digital Outputs* on page 117.

Note: Certain options are only available if supported by the device.

1. In the device Setup tab, click .
2. In the **Digital Outputs:** area, select an output.
3. Enter a **Name:** for the digital output.
4. Select the digital output's default **Circuit State:**.
5. The **Output Mode:** options define what occurs when the digital output is activated.
 - Select **Hold** to enable the digital output in continuous mode.
 - Select **Pulse** to enable the digital output in pulse mode. If there is a **Repeat Count:** field, specify the number of repeat counts for the pulse. If there is a **Total Duration:** field, specify how long the digital output should be for the pulse.
6. If there is a **Pulse Duration:** field, specify the pulse duration in minutes and seconds.
7. In the Link to Camera(s): area, select the cameras that are permitted to trigger this digital output.

By default, the system automatically selects the camera that this digital output is connected to.
8. Click **OK**.

Configuring the Device Microphone

Use the Microphone settings for any microphone connected to a camera or Avigilon video analytics appliance. You can also link the audio to other cameras.

To use this feature, a microphone must be connected to the device.

Note: Certain options are only available if supported by the device.

1. In the device Setup tab, click .
2. If the device supports multiple audio inputs, select the one you want to edit from the **Microphone Inputs:** list.
3. Click the **Microphone Off** toggle to enable audio recording from microphones connected to the device.
4. Enter a name for the microphone. Default names are assigned by the camera.
5. In the **Gain:** drop-down list, select the amount of analog gain that is applied to the audio input. The higher the dB setting, the louder the volume.
6. At the bottom of the dialog box, click **Listen** to test the sound from the microphone.

Tip: You must have speakers connected to the computer to hear the audio.

7. In the **Link to Camera(s):** area, select cameras to link to this audio.
8. Click **OK**.

Configuring the Device Speakers

Use the Speaker settings for speakers connected to a device or Avigilon video analytics appliance. You can also link the audio output to other devices.

Speakers must be connected to the device and a microphone must be connected to your local ACC Client.

Note: Certain options are only available if supported by the device.

1. In the device Setup tab, click .
2. If multiple **Speaker Outputs:** are listed, select the one you want to edit.
3. Click the **Speaker Off** toggle to enable audio broadcasting. Speakers connected to the device will broadcast audio from the microphone that is connected to the local ACC Client.
4. Select the **Record:** check box to record what is broadcast.
5. Enter a name for the speaker.
6. The **Volume:** slider controls the volume of the speakers.
7. In the **Link to Camera(s):** area, select cameras to link to the speakers.
8. To test the **Microphone Level:**, speak into the microphone. The red bar will move to show the audio input level.
9. Click **OK**.

Video Intercom

Before a Avigilon Video Intercom device can start a call session, you need to enable the microphone and speaker on the device in the ACC Client software, see *Configuring the Device Microphone* on the previous page and *Configuring the Device Speakers* above.

Authorizing ACC Operators to Answer Calls

To authorize ACC operators to receive calls from a Video Intercom, you must create a rule that connects the event of a call button being pressed, to an action that starts a call session between the device and an ACC operator.

The following example is a rule which specifies that when a call button is pressed on any intercom device, multiple users receive the video call until one answers.

To specify the trigger event:

1. In the Select Rule Event(s) list, under Device Events, select the **Digital Input Activated** check box.
2. In the panel below the events list, click **any digital input**.
3. Click **Any of the following digital inputs:** and for each Avigilon Video Intercom device at your site select **Call button**.
4. Click **OK** to return to the Select Rule Event(s) list, then click .

To specify the action to take:

1. In the Select Rule Action(s) list, under Monitoring Actions, select the **Video intercom call** check box.
2. In the panel below the actions list, click **all users**.
3. Click **All of the following users and/or groups:** and then click to select any combination of groups and users that you want to answer video intercom calls.
4. Click **OK** to return to the Select Rule Action(s) list, then click .

Alternatively, you can set up one rule per Avigilon Video Intercom device.

1. Specify the **Call button** of only one device when you specify the trigger event.
2. Before you select the users to answer the call:
 - a. In the panel below the actions list, click **the camera linked to the event**.
 - b. Click **All of the following cameras:**, then select the same Avigilon Video Intercom device that you specified for the trigger event.
 - c. Click **OK** to return to the Select Rule Action(s) list, then specify the user and continue to complete defining the rule.

For instructions on how to add and edit rules, see *Adding a Rule* on page 79.

For information on answering calls, see *Using Video Intercom* on page 116.

If you experience issues with voice echo during calls, you can configure the intercom in the device's Web Interface to ignore the operator's voice. We recommend having operators use a headset to avoid the caller's voice echoing through the operator's microphone.

Recording Video during a Call

To conserve video storage, you can use recording schedule templates to record only when a the call button is pressed. You can also specify when during the day you want video recorded based on which device, and which days of the week.

To define a recording schedule template for a Video Intercom call:

1. In the server Setup tab, click .
2. Click **Add Template** below the Templates: list.
3. Enter a name for the **New Template**.
4. Click the **Clear Area** button to clear the default settings.
5. Click the **Set Area** button.
6. In the **Recording Mode:** area, click or drag the cursor across in the **Digital Inputs** timeline to specify the hours that you want to record video when the call button is pressed. The rectangles on the Recording Mode: timeline are colored when they have been selected.

Tip: You can add more events to trigger recording. For more information, see *Recording Schedule Templates* on page 22.

To assign a Video Intercom to a schedule and set the days the schedule is active:

1. Ensure the template is selected in the Templates: list.
2. In the Default Week area, select the Video Intercom:
 - Click the name of the Video Intercom to use this template to record every day of the week.
 - Click to select the days of the week to use this template only on specific days.

For more information, see *Setting Up a Weekly Recording Schedule* on page 21.

3. Click **OK**.

Avigilon Presence Detector™ Sensors

The Avigilon Presence Detector (APD) sensor is a short-range radar that detects fine motion up to 9 meters, or 30 feet. These devices complement cameras to detect breathing or heartbeats that a camera may not detect reliably. Also useful for locations where the use of a camera is impractical or not allowed, detection can indicate loitering that needs to be investigated.

The APD™ sensor works by detecting a person in range and sending a Presence Detected notification. Presence is indicated in the event timeline, and the system starts counting down the preconfigured Dwell Time. If the person moves out of range, a Presence Ended event is recorded. If the person lingers in range too long, a Presence Dwell Time Exceeded notification is triggered. Once they finally move, the Presence Dwell Ended and Presence Ended event notifications are sent. To review these presence events, see *Searching Events* on page 119.

Note: The APD sensor only detects the presence of moving objects within its range. It cannot identify or count any objects detected.

1. In the device Setup tab, click  .
2. Move the **Range:** slider to define the range within which motion can be detected. Enter the distance from the sensor to the furthest edge of the floor or space. Accurately setting range is critical to avoid detecting motion on the other side of walls or barriers, or detecting a specific distance in a lobby or large space.
3. Set the **Dwell Time:** for define how long the APD sensor must detect motion before a Presence Dwell Time Exceeded event is generated. Longer dwell times are best for detecting loitering, so that normal activities in range do not generate events. Shorter dwell times are best for detecting activity in restricted areas.
4. Move the **Sensitivity:** slider to define how sensitive the APD sensor is to fine movement, such as breathing. Lowering the sensitivity helps prevent false detections.

Analytics

Configure and optimize video analytics settings for cameras and Avigilon video analytics appliances.

Enabling Server-Based Analytics

Server-based analytics enables Classified Object video analytics for cameras without analytics capabilities. To use this feature, you need an Avigilon video analytics appliance.

1. In the server Setup tab, click  .
2. In the following dialog box, a list of connected cameras are displayed.

Only cameras without the Classified Object video analytics mode enabled are displayed.

If you do not have access rights for a camera, it will not be shown in this list.
3. To enable Classified Object video analytics, select the check box beside the connected camera. If you have an Avigilon Artificial Intelligence (AI) Appliance, enabling video analytics also enables the Avigilon Appearance Search feature.

The Total Analytic Load bar displays the appliance's video analytics capacity. The percentage is based on the enabled camera's current Compression and Image Rate settings. You cannot exceed a Total Analytic Load of 100%.

4. Click **OK**.

Classified Object events can now be set up for the enabled cameras from the camera's Setup tab.

Analytics Mode

If your device supports self-learning, you can select an analytics mode to use.

Tip: If you have an ACC ES Analytics Appliance, you can enable both analytics modes simultaneously. In the device Setup tab enable Unusual Motion mode. In the server Setup tab enable server-based analytics. For more information, see *Enabling Server-Based Analytics* above.

Enabling an Analytics Mode

Enable Classified Object or Unusual Motion mode for a video analytics device.

1. In the device Setup tab, click  .
2. In the Video Analytics Mode: drop-down list, select one of the following:
 - **Classified Object** — Detect and classify people or vehicles.
 - **Unusual Motion** — Compare the speed and direction of movement against the scene, displaying irregularities as opposed to traditional movement.
 - **None** — Do not use analytic capabilities.
3. Click **OK**.

Configuring Analytics Settings

Cameras with Classified Object Detection video analytics and cameras connected to Avigilon analytics appliances can be configured to improve classified object detection accuracy.

Tip: You can configure these settings for multiple cameras using the Avigilon Camera Configuration Tool available on avigilon.com.

Note: Certain options are only available if supported by the device.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. Edit the analytics settings. Each setting is described below.
4. Click **Apply**.

Next, you can enable self-learning and configure analytics events. For more information, see *Self-Learning* on the next page or *Analytic Events* on page 74.

Analytic Settings

Setting	Description
Camera Type:	Select the type of camera that has been connected. <ul style="list-style-type: none">• Day and Night — select this option if the camera can stream video in color or black and white. This type of camera typically displays color video during the day and black and white video at night to capture as much detail as it can of the scene.• Color — select this option if the camera can only stream video in color.• Black and White — select this option if the camera can only stream video in black and white.• Thermal — select this option if the camera can stream forward looking infrared (FLIR) video.
Analytics Scene Mode:	Select the location that best describes where the camera is installed. <ul style="list-style-type: none">• Outdoor — this option is suitable for most outdoor environments. This setting optimizes the camera to identify vehicles and people.• Outdoor High Sensitivity — only use this option if you require the system to be more sensitive than the Outdoor setting. This option is optimized to run with higher sensitivity for detecting people and vehicles in challenging outdoor scenes. This option may generate more false positives.• Large Indoor Area — this option only detects people and is optimized to

Setting	Description
	<p>detect people around obstructions, like chairs and desks, if the head and torso are visible.</p> <ul style="list-style-type: none"> • Indoor Overhead — this option is optimized for cameras mounted directly overhead and should only be used when a torso cannot be seen in the camera FoV. Any movement is assumed to be human. It can be used in areas with limited space but with high ceilings, or to monitor doors. It should not be used with the Avigilon Appearance Search feature, or to detect people traveling against the crowd.
Enable Noise Filter	Select the check box if the camera is too sensitive and falsely detects motion as classified objects.
Display Classified Objects	Select the check box to display bounding boxes around classified objects in recorded video.
Sensitivity:	<p>Enter a value between 1-10 to select how sensitive a camera is to tampering events.</p> <p>Tampering is a sudden change in the camera field of view, usually caused by someone unexpectedly moving the camera. Lower the setting if small changes in the scene, like moving shadows, cause tampering events. If the camera is installed indoors and the scene is unlikely to change, you can increase the setting to capture more unusual events.</p>
Trigger Delay:	<p>Enter a value between 2-30 to define how many seconds the camera will wait before sending tampering events. The default value is 8.</p> <p>If the tampering ends before the trigger delay time has elapsed, no tampering events will be sent. If the time elapses but the tampering has not stopped, the events will be sent by the camera.</p>
Enable Self Learning	Select the check box to enable self-learning. If you clear this check box, more classified objects may be falsely detected.

Self-Learning

Self-learning is the ability of an Avigilon video analytics appliance or camera to perform self-adjustment of the scene. The video analytics device adjusts itself to the activity in its field of view. This can significantly improve the accuracy of classified object detection.

Self-learning can be enabled and disabled. Enable self-learning for all video analytic devices, except if:

- People or vehicles are not expected in the device's field of view.
- Objects move at different heights. For example, overhead pedestrian bridges, train platforms, hills and underpasses.
- The device is in Indoor Overhead mode. Self-learning is not used, even if enabled. All detected objects are classified as people. The Progress Bar will display 100% and cannot be reset.

For information on enabling self-learning, see *Configuring Analytics Settings* on the previous page.

Progress Bar

A progress bar displays in the device's Analytics Settings. The following table describes each phase of learning progress.

Learning Progress (%)	Description
0 – 33	The device is in the initial learning stage where it begins to gather information on the scene.
34 – 66	The device is adjusting itself using the data it has gathered on the average objects in the scene.
67 – 100	The device has established a high level of classified object detection accuracy.

Learning progress depends on the amount of activity in the scene. Approximately 200 high-confidence detections are required for optimal self-learning calibration.

Self-learning requires full-body detections. The learning progress may never reach 100% if only partial bodies are detected in the device field of view. However, if the upper half of the body moves as expected, Classified Object Detection will not be affected.

After learning progress is complete, a device may still flag a false positive for Unusual Motion. You can use the Teach By Example feature to provide confirmed cases of people or vehicles. For more information, see *Teach By Example* on the next page.

Unusual Motion Progress Bar

The Unusual Motion algorithm analyzes motion-based activity and learns to identify rare events.

Initial learning progress can take up to 2 weeks to reach 100%, but events are reported while the device is learning. As soon as there is enough information about what is typical for a scene, you will see unusual motion events in your live and recorded video.

As the learning cycle continues towards 100%, the system will increase accuracy. The system continues to learn from patterns over time, even after reaching 100%.

Resetting the Learning Progress

During installation, a camera is frequently adjusted. Once this process is finalized, reset the camera's learning progress.

When reset, all learning data is cleared, allowing the device to re-learn the scene. You are able to prevent missed and false detections based on old data.

Note: Always reset the learning progress after a camera is physically moved or adjusted, or if the focus or zoom level is changed. Any change in the camera's field of view affects the video analytic results.

1. In the device Setup tab, click .
2. Below the self-learning Progress bar, click **Reset**.
3. Click **Yes**.

The learning progress is reset.

Teach By Example

Teach By Example helps Avigilon video analytics cameras learn the scene to improve classified object detection accuracy.

Teach By Example collects feedback by applying assigned Teach Markers in recorded video. While any user can assign the markers, administrators decide which markers are most useful considering the environment, lighting, and field of view for each camera. Teach By Example is not required for video analytics cameras, but will help reduce the number of false alarms after self-learning is complete or disabled.

Assigning Teach Markers

True and False markers can be applied by operators. The easiest way to apply these markers is to conduct a classified motion search.

1. In the New Task menu , click .
2. Select the camera you want to teach and select **Classified Object Motion**.
3. Adjust the search region of interest (ROI) to be slightly larger than the ROI typically used for analytic events from that camera.
4. Click **Search**.
5. Select a result and play the event.

When motion is detected, a bounding box will appear around the detected motion.

6. Click inside the bounding box and mark the motion as either **True** or **False**.
7. Repeat until at least 30 true and 30 false markers have been assigned.

Tip:

- Include True and False examples from scenes with different lighting.
- To find False markers, search for events longer than 2 seconds with a confidence level greater than 20%.

Editing and Removing Teach Markers

1. In the New Task menu , click **Site Setup**.
2. Select a video analytics camera, then click **Teach By Example** 
 - Click inside the bounding box to change if the marker is True, False, or Not Used to remove the marker.
 - Click **Clear All Markers** to remove the assigned markers. This will not remove markers that were already applied to the camera.
 - Click **Restore to Factory Default** to remove all applied markers.

Note: Always restore factory default settings after a camera is moved or adjusted, or if the zoom or focus have changed.

3. Apply the teach markers or close the Teach By Example tab.

Applying Teach Markers

After at least 30 True and 30 False markers are assigned, they can be applied. Once applied, the teach markers will remain on the camera even if the camera changes servers. Each camera can have a maximum of 200 True and 200 False markers.

1. In the New Task menu , click **Site Setup**.
2. Select a camera with assigned markers and click **Teach By Example** .
3. Click **Apply**.

The assigned markers list is empty because the markers have been applied to the device. You can verify that the device was updated by checking the Teach Marker status.

Teach Marker Status

Review the camera's Teach Marker status to know when they were last applied or restored to factory default.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click **Settings** .
3. In the Self Learning section, the **Teach Markers Applied:** area displays the date that markers were last applied or if the camera is in its Factory Default state.

Note: For cameras connected to a Rialto video analytics appliance, the Teach Markers Applied: field will display **Unknown**.

Configuring Rialto Video Analytics Appliances

To use a Rialto video analytics appliance, configure each connected camera channel for video analytics detection.

If you are configuring an analog video analytics appliance, ensure the cameras are physically connected to each camera channel before connecting the appliance to the system.

If you are configuring an IP video analytics appliance, any camera on the network can be digitally connected to the appliance camera channels. Before you complete this procedure, connect the required cameras first.

1. In the New Task menu , click **Site Setup**.
2. Select the appliance, then click .
3. Assign a camera to the channel. Skip this step if you are configuring an analog appliance.
 - From the **Linked Camera:** drop-down list, select a camera for this channel.

Only cameras connected to the same server are listed.

Note: If the camera you link to has a resolution higher than 2.0 MP, the video analytics appliance will use the camera's secondary video stream. This does not affect the resolution of recorded video.

After you select the camera, the dialog box expands to display the video analytic event settings.

4. Configure the available analytics settings. For more information, see *Configuring Analytics Settings* on page 47.
5. If you'll enable self-learning or configure video analytic events, skip this step.

For more information about self-learning, see *Self-Learning* on page 48.

For more information about video analytic events, see *Analytic Events* on page 74.
6. Click **Apply** to save your settings.
7. If you are prompted, allow the device to reboot.

Users, Groups, and Permissions

Manage users, permission groups, and set up your corporate hierarchy.

Adding a User

Add additional users with their own access.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. Click **Add User**.
4. Complete the User Information area.
5. Select the **Disable user** check box to create a profile, but prevent access.
6. In the Login Timeout area, select the **Enable login timeout** check box to set the maximum amount of time the Avigilon Control Center Client software can be idle before the user is automatically logged out of the application.
7. Select the **Member Of** tab to assign the user to a group.
 - a. Select access group check boxes to assign the user to that group.

Tip: Clicking on each access group displays the relevant group privileges and access.

- b. Return to the **General** tab.
8. In the Password area, complete the following fields:
 - **Password:** — The password the user will use to gain access.
 - **Confirm Password:** — Re-enter the password.

The password must meet the minimum strength requirements, defined by how easy it is for an unauthorized user to guess.

Tip: Try entering a series of words that is easy for you to remember but difficult for others to guess.

- **Require password change on next login** — The user must replace the password after the first login.
 - **Password Expiry (Days):** — The number of days before the password must be changed.
 - **Password never expires** — The password will never need to be changed.
9. Click **OK**.

Editing and Deleting a User

You can edit and delete users as needed.

Note: You cannot edit or delete users that are above, or in the same ranked group as you. You cannot edit your own user account unless you belong to an Unranked group.

Tip: If a user has access to more than one site, the changes to the user need to be made on each site.

1. In the site Setup tab, click .
2. In the Users tab, select a user then perform one of the following:
 - To edit the user's information, click **Edit User**. For details about options, see *Adding a User* on page 52.
 - If Two-Factor Authentication is enabled, and a user has lost their verification code, click **Reset Two-Factor Key**. On their next login, a new QR code will display.
 - To delete the user, click **Delete User**.

Adding Groups

Groups define which features users can access. You can further define privileges by assigning each group a rank, and setting rules on what a group can access.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. Select the **Groups** tab, then click **Add Group**.
4. Select an existing group to use as a template for your new group, then click **OK**.
5. Add the following details in Edit Group:
 - a. Enter a group name.
 - b. Select a rank from **Rank**: To edit or view the entire Corporate Hierarchy, click .
 - c. Move the **Min Password Strength** slider to define how strong each user's password must be.
 - d. To enable Two-Factor Authentication, select the **Required** check box.

Users will need an authenticator app on their mobile device to scan a QR code before they can log into a site.

Ensure your servers sync to a real-time source. If the time on the user's device does not match, they will not be able to log in. Verification codes are only valid within 5 minutes.

Note: The default administrator will be able to log in to a site without Two-Factor Authentication, even if it is enabled for their group.

Important: Users with Two-Factor Authentication enabled will not be able to use the ACC Mobile 3 app or the ACC Virtual Matrix software.

- e. Select the required **Group Privileges:** and **Access Rights:** for the group. For more information, see *Group Privileges* below.
6. Click **Enable Dual Authorization** to configure Dual Authorization settings. When enabled, users cannot review recorded video without permission from the authorizing group.
 - a. Click the toggle to enable Dual Authorization. Click again to disable Dual Authorization.
 - b. Select which groups can authorize users.
 - c. Click **OK**.
7. In the **Members** tab, add users to the group.

If a user is added to the group through Add/Edit User, the user is automatically added to the group's Members list.

- a. Click **Add User**.
 - b. Select the users from this site to include in this group or use Search... to refine results.
 - c. Click **Add**. The users are added to the Members list.
8. Click **OK** to save the new group.

Editing and Deleting a Group

You can change the permissions for users by editing their access group.

1. In the site Setup tab, click .
2. Select Groups.
3. Select a group and do one of the following:
 - To edit the group, click . For details about the configurable options, see *Adding Groups* on the previous page.
 - To delete the group, click .

Note: Default groups cannot be deleted.

Group Privileges

To learn how to add a group, see *Adding Groups* on the previous page.

Group Privileges	Description
View live images	Allows users to watch a camera's live video

Group Privileges	Description
	stream in a View.
Use PTZ controls	Allows users to use a camera's PTZ controls.
Lock PTZ controls	Allows users to lock a camera's PTZ controls.
Trigger manual recording	Allows users to record video outside of a camera's recording schedule while watching video in a View.
Trigger digital outputs	Allows users to trigger digital outputs while watching video in a View.
Broadcast to speakers	Allows users to broadcast audio through speakers that are connected to a camera.
View high-resolution images	If there are multiple video resolution streams, allows users to watch, export, and archive a camera's high-resolution video stream.
View recorded images	Allows users to watch a camera's recorded video in a View.
Export images	Allows users to export recorded images.
View images recorded before login	Allows users to view images recorded before their current login session.
Archive images	Allows users to back up recorded images.
Create teach markers	Allows users to assign Teach Markers in recorded video.
Licensed search for identifying features	<p>Allows users to perform the following searches, if configured:</p> <ul style="list-style-type: none"> • Identity • Text Source Transactions
Manage saved views	Allows users to add and edit saved Views.
Manage maps	Allows users to add and edit maps.
Manage web pages	Allows users to add and edit web pages.
Manage user sessions	Allows users to log other users out of the site.
Listen to microphones	Allows users to listen to audio from a camera microphone.
Setup devices	Allows users to configure cameras.

Group Privileges	Description
Setup general settings	Allows users to edit a camera's General dialog box.
Setup network settings	Allows users to edit the Network dialog box.
Setup image and display settings	Allows users to edit the Image and Display dialog box.
Setup compression and image rate settings	Allows users to edit the Compression and Image Rate dialog box.
Setup image dimension settings	Allows users to edit the Image Dimensions dialog box.
Setup motion detection settings	Allows users to edit the Motion Detection dialog box.
Setup privacy zone settings	Allows users to edit the Privacy Zones dialog box.
Setup manual recording settings	Allows users to edit the Manual Recording dialog box.
Setup digital input & output settings	Allows users to edit the Digital Inputs and Outputs dialog box.
Setup microphone settings	Allows users to edit the camera's microphone settings for listening to audio.
Setup speaker settings	Allows users to edit the camera's speaker settings for broadcasting audio.
Setup analytics settings	Allows users to edit the Analytic Events dialog box.
Setup teach by example	Allows users access to the Teach By Example tab, and the ability to apply or remove Teach Markers from an analytics device.
Setup PTZ settings	Allows users to edit PTZ presets and tours.
Setup sites	Allows users to configure sites.
Setup name	Allows users to edit the site name.
Manage site	Allows users to add and upgrade servers in a site.
Setup site view	Allows users to organize the order of cameras in the System Explorer.
Setup user and group settings	Allows users to edit the Users and Groups dialog box.

Group Privileges	Description
Setup corporate hierarchy	Allows users to edit the Edit Corporate Hierarchy dialog box.
Setup alarm management settings	Allows users to edit the Alarms dialog box.
Setup POS transaction settings	Allows users to edit the POS Transactions dialog box.
Setup external notification settings	Allows users to edit the External Notifications dialog box.
Setup rule engine settings	Allows users to edit the Rules dialog box.
View site logs	Allows users to view Site Logs.
Connect and disconnect devices	Allows users to connect and disconnect cameras and other devices to servers.
View Site Health	Allows users to see Site Health details.
Setup servers	Allows users to configure servers.
Manage server	Allows users to edit the server name.
Setup schedule settings	Allows users to edit the camera Recording Schedule.
Setup recording and bandwidth settings	Allows users to edit the camera Recording and Bandwidth settings.
Setup Storage Management	Allows users to set up Scheduled Archive.
Backup settings	Allows users to back up server settings.
Setup server analytics	Allow users to configure analytics on supported servers.

Resetting a Password

Only administrators can reset a user's password.

Note: To maintain strict security, administrator passwords can only be reset by Avigilon Technical Support.

1. In the New Task menu , click **Site Setup**.
2. Select your site, then click .
3. In the **Users** tab, double-click a user.
4. Click **Change Password** and enter a new password.
5. Click **OK** to save the new password.

Tip: Select the **Require password change on next login** to let the user update their credentials after they log in.

6. Click **OK**.

Managing User Connections

If an operator leaves themselves logged in, or there are simply too many users logged in at one time, you can log them out.

1. In the New Task menu, click .
2. Select a site from the System Explorer to display all current users on the right.
 - Users that share a login are separated by User Name and Machine Name
 - Login Duration displays how long that user has been logged in to the site.
3. Select a user to log out and click **Log Users Out**.

Corporate Hierarchy

You can set up a Corporate Hierarchy in the system to reflect your organization's structure.

Rank groups to help define what group members have access to. Users cannot see groups of equal or higher rank than the group they belong to. If users belong to multiple groups of different ranks, they will be able to view all ranks below the highest rank they belong to. For more information, see *Ranks* on the next page.

Setting Up a Corporate Hierarchy

Assign ranks to users and groups to establish a Corporate Hierarchy.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. In the Group tab, select a group and click **Edit Group**.
4. To create a rank, click .

If you have not yet created a Corporate Hierarchy, you will be prompted to create one. Click **Yes**.

The default and highest rank is Global. It can be renamed, but not deleted.

5. Select a rank, then click **Add** to add a subordinate rank below it in the hierarchy.
6. To rename a rank, double-click the name and enter the new one. Clicking outside the text field will save the change.

Note: Ranks cannot be moved within the Corporate Hierarchy.

7. To delete a rank, select it and click **Delete**. Any subordinate ranks will be deleted.
8. Click **OK** to save your changes.

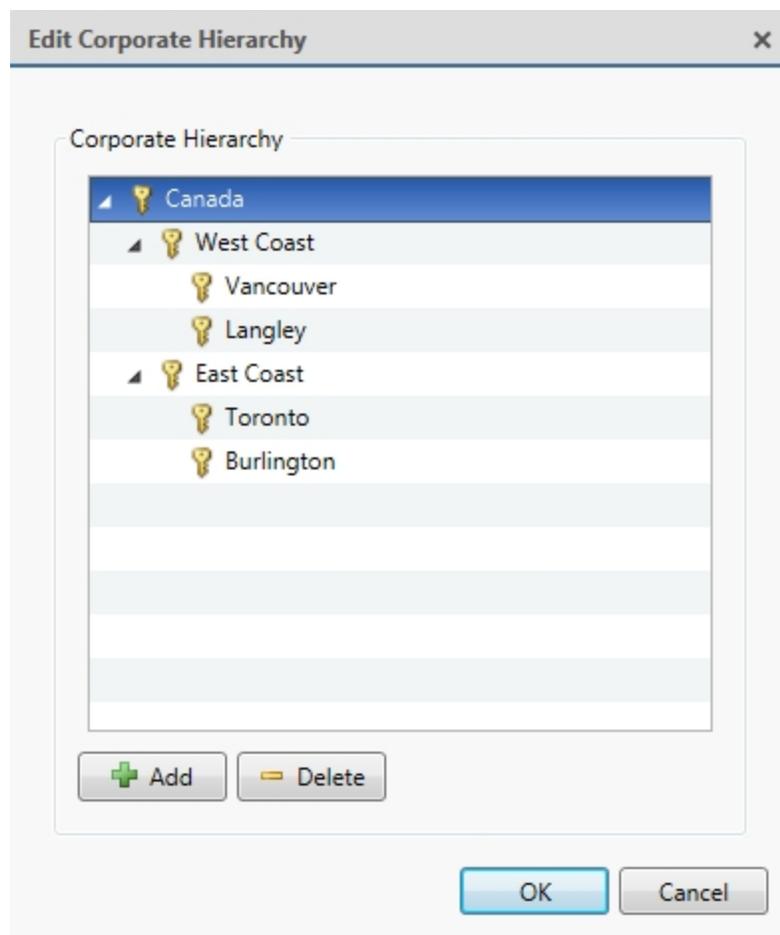
You can now assign ranks to groups. For more information, see *Adding Groups* on page 54.

Ranks

Ranks within Corporate Hierarchy represent the permission levels of your organization.

Global is the default, and also highest rank in the Corporate Hierarchy.

To further explain ranks, we'll use this example. **Canada** is the highest, Global rank while **West Coast** and **East Coast** are equal rank, below **Canada**. Users in **East Coast** cannot edit ranks below **West Coast**.



Unranked Groups

The Unranked groups are outside the Corporate Hierarchy and cannot be deleted or edited. Users belonging to Unranked groups are able to create and edit any ranked or Unranked groups and users.

The default groups Administrators, Power Users, Restricted Users, and Standard Users are Unranked.

Deleted Ranks

If a rank is deleted, groups in this rank are removed from the hierarchy and assigned the lowest rank possible. Those users are only visible to Unranked and Global users.

Unranked and Global users can reassign group ranks at any time. Members of the orphaned rank have no Setup user and group settings privileges but will retain basic privileges.

Deleting a rank will delete all subordinate ranks. Remotely synchronized users and groups may become inaccessible.

ACM™ Appliances

A site can connect to a single Access Control Manager (ACM) appliance. Once connected, you can import ACM roles, link cameras to doors, and add rules for ACM events.

Before Adding an ACM Appliance

Before an ACM appliance can be added to your ACC site, there are several configuration steps required in the ACM appliance.

For more information about any of the following settings, see the ACM help files.

Note: If you are using an ACM appliance version 5.10.10 SR1 or later, an ACC Administrator delegation and role have already been created. Double-check that the delegation has all rights listed in step 1 below, and that the role is set up as described in step 3.

1. Create a delegation for integrating with the ACC software. This delegation must have the following rights:
 - Appliance Listing
 - Delegations Listing
 - Door Grants
 - Doors Listing
 - Identities Listing
 - Identities Login - Remote
 - Identities Photo Render
 - Inputs Listing

- Panels Listing
 - Partitions List
 - Roles Listing
 - Subpanels Listing
 - System Summary Listing
2. Create a routing group to define events sent from the ACM appliance to the ACC software.
 - a. Specify the following for the group:
 - **Schedule:** 24 Hours Active
 - **Schedule Qualifier:** Appliance
 - The **Installed** box must be checked
 - b. Add the following event types to the routing group:
 - Door held open
 - Forced Door
 - Intrusion
 - Invalid Credential
 - Maintenance
 - System
 - Tamper
 - Valid Credential
 3. Create a role that allows the ACC software to communicate with the ACM appliance:
 - a. Keep the default **Parent** value (none).
 - b. Keep the default **Start Date** value (the current date).
 - c. In the **Stop Date** box, enter an appropriate date for this role to expire. By default, the role will stop working 1 year from its creation date.
 - d. Select the **Installed** check box and click **Save**.

Additional tabs will appear.
 - e. In the role's **Delegate** tab, assign only the delegation that was created in the preceding steps.
 - f. In the **Routing** tab, assign only the routing group that was created in the preceding steps.
 4. If you plan to import Active Directory identities to the ACM appliance or the ACC software, configure an LDAP Collaboration. For Active Directory Remote Authentication, configure remote authentication from external domains.
 5. Create a dedicated identity for interacting with the ACC software.

Note: To protect the security of the connection between the ACM appliance and the ACC software, the dedicated identity should have only the permissions outlined in this procedure. Operators should not have access to this account.

- Assign a Last Name, Login, and Password for the identity.
- The password should meet the minimum password strength requirements for your ACC site.

The password strength is defined by how easy it is for an unauthorized user to guess. It is highly recommended that you select a password that uses a series of words that is easy for you to remember but difficult for others to guess.

- Under the identity's **Roles** tab, assign only the role that was created in the preceding step.
6. If your ACM appliance uses partitions, add the identity as a member of the partitions they will need to access from the ACC Client.
 7. Configure the ACM appliance to use the same NTP Time Server as the ACC Server.

For Windows systems, the ACC Server gets its time from the operating system. For ACC ES recorders and appliances, the NTP Time Server can be configured through the device's web interface.

- a. In the top-right corner, click the gear icon to open the Setup & Settings menu and select **Appliance**.
- b. In the **Time Server** box, enter the Time Server IP address.

Once these settings are applied, you can connect to the ACM appliance from the ACC Client.

Connecting an ACM Appliance to an ACC Site

Connect an ACM appliance to your ACC site and you can link doors controlled by the appliance to cameras controlled by the ACC software. After doors and cameras are linked, you can configure rules that are triggered by doors in the ACC software.

Note: Make sure you have the following before you begin.

- The hostname or IP address of the ACM appliance.
- The ACM port number if different from the default port (443).
- The username and password for the identity that was created to add the ACM appliance to the ACC software.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. Enter the required credentials.
4. Click **OK**.

Confirm that the listed SHA-256 fingerprint ID is the same. Fingerprint information is typically listed on the Appliance>Edit page, under the SSL Certificate tab.

5. If the fingerprints are the same, click **Trust**.

If they do not match, contact your system administrator.

The ACM appliance is now listed under the site as **AC** *Hostname* in the Setup tab.

Importing ACM Roles

Important: Usernames in the ACC software and ACM appliance must be unique. Duplicate names will not be imported.

Note:

- Importing ACM Roles to a site will disable all Active Directory users in the ACC software. To use Active Directory, configure remote authentication from external domains in the ACM application first. For more information, see the ACM help files.
- If your ACM appliance is partitioned, ensure identities are members of the appropriate partitions so they can access unification features in the ACC Client.

Import Roles from the ACM appliance to give users access to cameras and doors. When you import a role, you also import the identities that are assigned to the role. Only identities with a username and password in the ACM appliance will be imported.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. In the External Directory tab, select the **Enable External Directory** check box. From the drop-down list, select **Avigilon Access Control Manager**.
4. Click **Add Group**.
5. Select an existing group to use as a template then click **OK**. You can edit the permissions for the group later.
6. Select all the roles that you want to import.

You can use the search bar to find specific roles.

7. Click **OK** to add the roles.

Once imported, the roles are added to the External Directory list and the Groups list. All identities assigned to the role are imported into the Users list.

Imported roles can be edited for ranks, feature privileges, and device access rights to the imported role. You cannot assign ACC users to an ACM role from the ACC Client software.

Imported identities can be added to existing groups in addition to the role they were imported with. Imported identity information, including login credentials, is maintained by the ACM appliance.

Linking Doors to Cameras

Note: To use this feature, your ACM identity must be imported into the ACC software and have the appropriate ACM permissions. For more information, see *Importing ACM Roles* on the previous page. Contact your ACM administrator to update your permissions.

Doors that are installed and connected to installed panels or subpanels can be linked to any number of cameras in your site. Once a link is created, authorized users can monitor doors, identities, and configure rules in the ACC software.

Contact your ACM administrator to configure the doors you want to link.

Adding a Link

1. In the New Task menu , click **Site Setup**.
2. Select the ACM appliance, then click .
3. Click **Create Link**.
4. In the **Select a door** drop-down list, select the check box beside a door.

Note: The available doors depend on your permissions in the ACM appliance. Contact your ACM administrator to update your permissions.

5. In the **Select one or more cameras** drop-down list, select the check box beside all the cameras that you want to link to the door.
6. Click **OK**.

Editing and Deleting a Link

You can change the cameras that are linked to a door.

1. In the New Task menu , click **Site Setup**.
2. Select the ACM appliance, then click .
3. Select a link then click **Edit Link**, or **Delete Link**.
4. Click **OK**.

Adding Rules for ACM Appliance Events

Note: To use this feature, your ACM identity must be imported into the ACC software and have the appropriate ACM permissions. For more information, see *Importing ACM Roles* on page 64. Contact your ACM administrator to update your permissions.

You can create rules in the ACC software that are triggered by ACM appliance events. These events can include attempts at door access and badge readers, and can trigger live video that immediately displays on all user's screens.

For a complete list of rules, actions, and conditions for access control events, see *Rule Events and Actions* on page 81.

1. In the New Task menu , click **Site Setup**.
2. Click  , then click .
3. Select all the events that will trigger the rule.

If there is blue underlined text in the rule description, click on the text to further define the event.

When the trigger event is defined, click .
4. Select all the actions that will occur in response to the triggers.

If there is blue underlined text in the rule description, click on the text to further define the action.

When the action is defined, click .
5. Select one or more conditions that will cause the rule to run. To always run the rule, clear all conditions.

If there is blue underlined text in the rule description, click on the text to further define the condition.

When the condition is defined, click .
6. Enter a **Rule Name:**, **Rule Description:**, and assign a **Schedule:**. For more information, see *Scheduling Rules* on page 80.
7. Click  to save the new rule.

Customizing ACC

Create custom events, notifications, and alarms to enhance your site's security. Configure camera and display settings and manage licensed features like license plate recognition, maps, and the ACC Virtual Matrix.

Display Settings

You can select a theme for the Client software, update the Site View to change the order of the System Explorer, and configure how the Client software displays video.

Changing the Application Theme

You can adjust whether the application display uses a light or dark theme. By default, the light theme is used.

Use a dark theme to reduce eye strain when using the software in a dark room.

1. In the top-right corner of the ACC Client, select  > **Client Settings**.
2. In the Display tab, select a theme.
3. Click **OK** to save your changes.

Editing the Site View

You can change your site organization in the View tab to reflect how your system is set up.

By default, all cameras are listed in alphabetical order by site in the System Explorer. In the Site View Editor, you can organize the System Explorer to display cameras by location and group items for convenience. You can also hide cameras that are not relevant to an ongoing investigation.

The site cannot be moved or re-organized.

Note: These settings only affect the System Explorer in the View tab.

1. In the New Task menu , click **Site Setup**.
2. Click .
3. Edit your layout.
 - To add a folder, click . Folders are only visible in the View tab.
Double-click the folder to change its name.
 - Click and drag items to move their location.
 - Use   to move one element at a time.
 - To sort the layout alphabetically, click . To sort a single folder, select an element within the folder then click .
 - To delete a folder, select the folder and click . The elements inside the folder will move to the bottom of the layout.
 - Expanded or collapsed folders will appear that way when users log in to the site. Users can still collapse or expand folders in the System Explorer.
4. Click **OK** to save your changes.

When you open a new View tab, the System Explorer displays your latest changes.

Changing the Video Display Settings

There are multiple settings that impact color and quality of the image displayed from a camera. These settings do not impact quality or image rate on the server.

1. Click  > **Client Settings** > **Display**.
2. Update any of the following settings.
 - **Display Deinterlaced Images** — Smooths the blur occasionally seen in analog video.
 - **Display Logical IDs** — Displays the Logical ID next to the device name in the System Explorer.
 - **Display Device Preview** — Displays live video while hovering over a device in the System Explorer.
 - **Display Quality:** — Adjusts image quality based on bandwidth or processing power. Increasing the quality allows you to make out objects and faces while lowering quality is better for viewing moving events.
 - **Display Adjustment Settings:** — Changes the levels of contrast and brightness or restores the factory default. Make small changes at a time. If video is displayed in a View tab, the new

settings will not take effect until the **Restore Defaults** option is selected in the image panel.

Tip: You can adjust these settings per image panel by right-clicking and selecting **Display Adjustments...**

3. Click **OK** to save.

Video Overlays

Overlays display additional contextual information over video.

1. Click  > **Client Settings** > **Overlays**.
2. Enable any of the following overlays.
 - **Device Name** — Displays the device's assigned name.
 - **Device Location** — Displays the custom location of the device.
 - **Playback Timestamp** — Displays either the device's local timestamp or your local timezone during recorded playback.
 - **Live Timestamp** — Displays either the device's local timestamp or your local timezone during live playback.
 - **Record Indicator** — Displays recording status.

Note: Record Indicator must be displayed to enable manual recording. For more information, see *Manually Recording Video* on page 102.

- **Motion Activity** — Highlights motion.
 - **Video Analytics Activity** — Highlights people and vehicles. For video analytics devices.
3. Click **OK** to save.

Configuring Standby Mode

If a person does not agree to be under surveillance due to privacy concerns, you can put a device on Standby. When on Standby, the device does not stream or record video.

Create rules to enable and disable Standby mode. For example, you could set up a rule to trigger Standby when motion is detected and a digital input is activated.

Adding a Rule to Enable Standby

1. In the New Task menu , click **Site Setup**.
2. Click  .
3. Click  and select the events that will trigger the rule. Click .
4. Select **Pause device**. Click .
5. Select one or more conditions that will cause the rule to run. To always run the rule, clear all conditions. Click .
6. Enter a descriptive **Rule Name:** and **Rule Description:**.
7. Click  to save the new rule.

Adding a Rule to Disable Standby

1. In the New Task menu , click **Site Setup**
2. Click  .
3. Click  and select the events that will trigger the rule. Click .
4. Select **Resume device**. Click .
5. Select one or more conditions that will cause the rule to run. To always run the rule, clear all conditions. Click .
6. Enter a descriptive **Rule Name:** and **Rule Description:**.
7. Click  to save the new rule.

Changing Day/Night Mode

If the camera supports day/night control from the image panel, one of the following icons is displayed in the lower-right corner of the image panel. The icon that is displayed reflects the current setting.

Day/night mode uses a camera's built-in IR cut filter to help capture high quality images based on the amount of light in the scene. Most cameras provide you with the ability to set day/night mode from the Image and Display dialog box, but only some give you the ability to change this setting from the image panel.

The image panel setting is applied to all user views and will be seen in recorded video.

In the lower-right corner of the image panel, click the **Set Day/Night Mode** button and select one of the following:

-  **Automatic** — Allow the camera to control the infrared cut filter based on the amount of light in the scene.
-  **Day Mode** — The camera will only stream in color and the IR cut filter is disabled.
-  **Night Mode** — The camera will only stream in black and white, and the IR cut filter is enabled to capture near infrared light.

Using Digital Defog

If a camera supports digital defog, the  icon is displayed in the image panel. Digital defog uses an image processing algorithm to increase image quality when dealing with rain, mist, or foggy conditions. Digital defog is disabled by default.

The digital defog levels in the image panel are applied to all user views and will be seen in recorded video.

- In the lower-right corner of the image panel, click  to enable digital defog.
- To change the digital defog level, move the slider.

If the connected device supports discrete levels, the slider will snap to the nearest level.

- If the connected device supports automatic adjustments, click the digital defog button until  is displayed to enable automatic digital defog.
- To disable digital defog, click the digital defog button until  is displayed.

Dewarping Fisheye Displays

If your camera uses a fisheye or panomorph lens, you can dewarp the image from the ACC Client software.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click **Image and Display** .
3. In the **View Perspective:** drop-down list, select the camera's orientation.
 - **Floor** — Positioned lower, the camera is looking up.
 - **Ceiling** — Positioned higher, the camera is looking down.
 - **Wall** — The camera is looking towards the horizon.
4. Click **Apply** to refresh the view and **OK** to finish editing.

Zooming and Focusing the Camera Lens

If the camera has remote zoom and focus capabilities, they can be controlled through the Image and Display settings.

1. In the camera Setup tab, click .
2. If the camera has a built-in auto-focus feature, choose one of the following:
 - **Continuous Focus** — The camera will automatically focus itself whenever the scene changes. Skip the remaining steps.
 - **Manual Focus** — You can manually focus the camera through the Focus: buttons.
3. While you watch the preview in the image panel, complete the following steps to zoom and focus the camera:
 - a. Use the **Zoom:** buttons to zoom in to the distance you want to focus.
4. In the **Iris:** drop-down list, select **Open**. When the iris is fully open, the camera's depth of field is the shortest.
5. Use the **Focus:** buttons until the image becomes clear.

Button	Description
Auto Focus	The camera will automatically focus one time.
	The camera will focus as close to zero as possible.
	Large step toward zero.
	Small step toward zero.
	Small step toward infinity.
	Large step toward infinity.
	Infinity.

Click **Apply to Devices...** to apply the same settings to other cameras of the same model.

6. Click **OK**.

Measuring Pixels in the Field of View

When setting up a camera for video analytics or License Plate Recognition (LPR), it is important to have a minimum number of pixels in the target area to improve detection results. For example, you may want to ensure that there are enough pixels to detect a person's face or a license plate in the field of view (FoV).

For cameras that have video analytics or LPR enabled, you can measure the number of pixels in a target area.

Tip: For pixel guidelines, refer to *Designing a Site with Avigilon Video Analytics and H3 LPC Camera Kit* and *ACC 6 License Plate Reader Engine Site Design* on avigilon.com.

Note: Fisheye cameras and cameras connected to a video analytics appliance are not supported.

To measure pixels:

1. In the camera Setup tab, click .

The Image and Display dialog box is displayed.

2. In the toolbar, click .

A purple overlay appears over the camera's FoV. The live video is paused so you can measure the number of pixels an object of interest covers within the FoV.

3. To resize the overlay, click and drag the corners.
4. To move the overlay, click and drag within the overlay.

The number of pixels used for video analytics, LPR, or both applications is displayed. The number of pixels may differ for each application depending on the camera resolution.

Note: While using the pixel measuring tool, you cannot edit other Image and Display settings.

5. Click  to hide the pixel measuring overlay and continue streaming live video.

Configuring Infrared LEDs

You can enable or disable IR LEDs on the H4 Multisensor camera's exterior from the ACC Client software. Disable IR LEDs to prevent reflections off nearby objects from compromising a camera's image.

1. In a View tab, open the camera in an image panel.
2. Right-click the image panel and select **Infrared LEDs...**
3. In the following popover:
 - Select the IR LEDs you want to enable.
 - Clear the IR LEDs you want to disable.
4. Click **Apply**.

Displaying Video Analytics Activity

Note: Certain options are only available if supported by the device.

When adding Avigilon self-learning video analytics cameras, you can choose to display the bounding boxes that highlight video analytics activity. By default, this setting is enabled, and bounding boxes will appear around detected objects and in AVI video export. When disabled, cameras will still detect events, but will not display the boxes outside of searches.

Tip: To change this setting for all cameras, change the Video Analytics Activity overlay option in Client Settings. For more information, see *Video Overlays* on page 69.

1. In the device Setup tab, click .

The Settings dialog box opens.

2. Select the **Display Classified Objects** check box to enable bounding boxes. Clear the box to disable the display.
3. Click **OK**.

Events and Rules

Configure analytic and motion detection events, which can be used to set up rules. Rules allow you to select a set of actions that occur in response to events.

Analytic Events

You can define analytic events on each Avigilon self-learning video analytics device.

The events can be used to set up notifications or rules.

Adding an Analytic Event

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. Click **Add**.
4. Enter a name for the event.
5. Select the **Enabled** check box. If the check box is clear, the video analytics event will not detect or trigger any events.
6. Select an **Activity**: For a description of each option, see *Analytic Event Descriptions* on the next page.

7. Configure the green overlay to specify the region of interest (ROI).

Note: Analytic events are only triggered if the bottom center of the detected object's bounding box is in the ROI or crosses the beam.

8. Select the **Object Types:** the event applies to.
9. Click **Show Advanced Options** and configure the available settings:
 - **Sensitivity:** — The likeliness of an object to trigger the event. The greater the sensitivity, the more likely an event will be triggered for objects detected with low confidence. The default is 8.
 - **Number of Objects:** — The number of objects required to trigger the event.
 - **Threshold Time:** — The minimum duration of the event before the system triggers an event. The default is 0-30 seconds depending on the activity.
 - **Timeout:** — The maximum duration of the event. Events that are still active after this time will trigger a new event. The default value is 60 minutes.
 - **Prohibited Direction:** — The arrow in the circle defines the direction that objects should not be traveling.
10. Click **OK** to save your settings.

Editing and Deleting Video Analytics Events

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. Select an event from the Analytics Events: area.
 - To edit the event, click  and make the required changes.

Note: If you change the name of the event, any rules or alarms linked to the event may no longer work.

- To delete the video analytics event, click .

Analytic Event Descriptions

The following table shows the Activity: options that can be used when configuring analytic events. For more information and advanced options, see *Analytic Events* on the previous page.

Note: The region of interest (ROI) is like a rug or tripwire. Events are only triggered if the bottom center of the detected object's bounding box is in the ROI or crosses the beam.

Activity:	Description
Objects in area	<p>The event is triggered when the selected number of objects are present in the ROI for longer than the threshold time. The object can appear from within the ROI or enter from outside.</p> <p>Only one event is activated when the specified number of objects are detected in the area. Additional objects in the area will not trigger additional events.</p>
Object loitering	<p>The event is triggered for each object that stays within the ROI longer than the threshold time. Each object triggers a separate event.</p> <p>The event resets when the object leaves the ROI or the event times out.</p>
Objects crossing beam	<p>The event is triggered when the specified number of objects have crossed the beam in the specified direction within the threshold time.</p> <p>If the number of objects is 1, the event is triggered after the threshold time elapses.</p> <ul style="list-style-type: none"> ◦ To change the direction of the beam, click . ◦ To detect objects traveling in either direction of the beam, click .
Object appears or enters area	<p>The event is triggered once for each object in the ROI for longer than the threshold time. The object can appear from within the ROI or enter from outside the ROI.</p> <p>This video analytic event causes many alarms. For example, if 20 objects are detected within the ROI, 20 events are triggered – one for each object.</p>
Object not present in area	<p>The event is triggered when no objects are present in the ROI for longer than the threshold time.</p>
Objects enter area	<p>The event is triggered when the specified number of objects are detected in the field of view (FoV) then enter the ROI within the threshold time.</p> <p>If the number of objects is 1, the event is triggered after the threshold time elapses.</p> <p>The ROI must be smaller than the camera FoV to detect the object before it enters the ROI. Objects that appear from within the ROI will not trigger an event.</p> <p>Only one event is activated when the specified number of objects are detected in the area. Additional objects in the area will not trigger additional events.</p>
Objects leave area	<p>The event is triggered when the specified number of objects are detected inside the ROI then leave the ROI within the threshold time.</p> <p>If the number of objects is 1, the event is triggered after the threshold time elapses.</p>

Activity:	Description
	The ROI must be smaller than the FoV of the camera.
Object stops in area	The event is triggered if a classified object is detected moving within the ROI then stops moving for longer than the threshold time. One event is activated for each object that stops. An object can only be tracked for up to 15 minutes.
Direction violated	The event is triggered for each object that moves within 22 degrees of the prohibited direction for longer than the threshold time. One event is activated for each classified object that moves in the prohibited direction.

Motion Detection Events

You can configure the system to generate motion events that can be used when searching video or to trigger notifications and rules.

There are two types of motion detection available:

- **Classified Object Motion Detection** analyzes the video and only reports the motion of vehicles or persons. This option is only available to Avigilon self-learning video analytics devices.
- **Pixel Motion Detection** observes the video stream as a whole and considers any change in pixel as motion in the scene. This option is available to most cameras that are connected to the system.

Setting Up Pixel Motion Detection

Set up pixel motion detection to define motion events. Motion events can be used when searching recorded video, or to trigger notifications and rules.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. In the **Pixel Motion Detection** tab, define the region of interest (ROI) where motion is detected. A motion event is generated for changes in any pixel within this ROI.

Tip: The motion detection area should avoid areas prone to continuous pixel motion — like TVs, computer monitors, trees and moving shadows. These areas tend to trigger motion recording even though the motion activity may be insignificant.

-  — click and drag to add a new pixel motion detection area. You can draw multiple overlays to define the pixel motion detection area.
-  — click and drag to exclude areas from the pixel motion detection area.

-  — manually draw pixel motion detection areas.
-  — select the entire image panel for pixel motion detection.
-  — clear the image panel of all pixel motion detection areas.

4. Define how sensitive the system should be to pixel motion.

- **Sensitivity:** — adjust how much each pixel must change before it is considered in motion.

When the sensitivity is High, small movements like dust floating immediately before the camera lens are detected.

- **Threshold:** — adjust how many pixels must change before the image is considered to have pixel motion.

When the threshold is High, only large movements like a truck driving across the scene are detected.

Tip: The **Motion** indicator above the Threshold: slider indicates how much motion is occurring in the current scene. The camera will only detect pixel motion if the Motion indicator moves to the right of the Threshold: marker.

- **Pre-Motion Record Time:** and **Post-Motion Record Time:** — specify how long video is recorded before and after the pixel motion event.

5. Click **OK** to save your settings.

Setting Up Classified Object Motion Detection

Set up classified object motion detection to define classified object motion events. Motion events can be used when searching recorded video, or to trigger notifications and rules.

1. In the New Task menu , click **Site Setup**.
2. Select a camera, then click .
3. In the **Classified Object Motion Detection** tab, configure the green overlay to define the region of interest (ROI) where motion is detected.

Note: Motion events are only triggered if the bottom center of the detected object's bounding box is in the ROI.

- To change the shape or size of the overlay, click and drag the markers on the border. Extra markers are automatically added to help you fine tune the shape of the overlay.
- To move the overlay, click and drag.
- To add an exclusion area, click . The red exclusion area is added inside the overlay.

Classified object motion is *not* detected in exclusion areas.

- Move and resize the exclusion area as required then click anywhere on the green overlay.
 - To edit an exclusion area, double-click the exclusion area then modify as required.
 - To delete the exclusion area, select an exclusion area then click .
 - To restore the green overlay, click .
4. Define the objects that are detected by the system.
 - **Object Types:** — select whether the motion event applies to people or vehicles or both.
 - **Sensitivity:** — move the slider to adjust how likely the system is to generate a motion event.

If you set the slider to the left, the device will generate fewer motion events for objects detected with higher confidence. Use this setting for scenes with a high level of activity.

If you set the slider to the right, the device will generate more motion events for objects detected with lower confidence. Use this setting for scenes with little activity.

If the slider is set too low, the system may miss classified object motion. If the slider is set too high, the system may generate a higher number of false detections.
 - **Threshold Time:** — enter how long an object must move before a motion event is generated.
 - **Pre-Motion Record Time:** and **Post-Motion Record Time:** — enter how long video is recorded before and after a motion event.
 5. Click **Apply** to save your settings.

Adding a Rule

Rules are the actions that happen in response to events. By adding rules, you determine how your system should behave when an event occurs. For a complete list of events and actions, see *Rule Events and Actions* on page 81.

1. In the New Task menu , click **Site Setup**.
2. Click **Rules** .
3. Click **Add**.
4. Select the events you want included as triggers. Click **Next**.
5. Select as many actions as you want to include as responses. Click **Next**.
6. Select the conditions that must be met to activate the rule. Click **Next**.

Note: Events, Actions, and Conditions can be further defined if they appear as blue text after being selected.

7. Add a **Rule Name:** and **Rule Description:**, then assign a schedule. For more information, see *Scheduling Rules* below.
8. Click **Finish**.

Scheduling Rules

When you configure a rule based on an event that affects the entire site, you can assign the rule a schedule. Schedules control when rules are triggered — at specific times during a day, or only on specific days.

The **Schedule** option is displayed on the last step of adding or editing a rule.

- To use a preconfigured schedule, select an option from the drop-down list. The default option is Always, which allows the event to run constantly.
- To change a schedule, select the schedule then click  > .
- To delete a schedule, select the schedule then click  > . In the following confirmation dialog box, click **OK**.
- To create a schedule, click  then select . Complete the following steps:
 1. Give the new schedule a name.
 2. Give the first recurrence a name.

You can add multiple recurrences to create a detailed schedule. For example, you could create one recurrence to cover every weekend, plus extra recurrences to cover public holidays.

- To add extra recurrences, click .
 - To delete a recurrence, select the recurrence then click .
3. For each recurrence, define the duration by entering a **Start:** and **End:** time.

Note: If you enter an End: time that is earlier than the Start: time, the event will span two days. For example, if the schedule is set to start at 12:00 pm and end at 11:59 am, the event is automatically enabled from 12:00 pm on day 1 and will end at 11:59 am on day 2.

4. In the **Start Date:** field, enter when the recurrence should begin.

- In the Recurrence pattern area, select the frequency of the recurrence.

Option	Description
Daily	The event is enabled during the same time every day. <ul style="list-style-type: none"> Select the number of days between each schedule recurrence.
Weekly	The event is enabled during the same day and time every week. <ul style="list-style-type: none"> Select the day(s) of the week, then select the number of weeks between each schedule recurrence.
Monthly	The event is enabled during the same day and time every month. <ul style="list-style-type: none"> Select the specific day or weekday, then select the number of months between each schedule recurrence.
Yearly	The event is enabled during the same day and time every year. <ul style="list-style-type: none"> Select the specific day or weekday and month, then select the number of years between each schedule recurrence.

- Add and complete any other recurrences that need to be part of the schedule.
- Click **OK** to save the new schedule.

Editing and Deleting Rules

- In the New Task menu , click **Site Setup**.
- Click **Rules** .
- Select a rule and click **Edit** , or **Delete**  to remove the rule.
- When you're finished updating the rule, click **Finish**.

Rule Events and Actions

The following tables describe the trigger events, actions, and conditions that are available when you set up a rule. For more information about setting up a rule, see *Adding a Rule* on page 79 or *Adding Rules for ACM Appliance Events* on page 66.

Rule Events

Rule events are the events that trigger a rule.

Server Events

Event	Description
Server application starting up	Server software starts up.
Server application shutting down	Server software shuts down.

Event	Description
Server application terminated unexpectedly	Server software shuts down unexpectedly.
Server application low on resources	Server software is low on memory or storage.
Server application installation error	Server software was installed incorrectly.
License expires soon	Server software license expires soon.
License expired	Server software license has expired.
Database error	Server database has generated an error.
Data initialization error	Server database has generated an error during initialization.
Data volume failed	Server data volume has failed.
Data volume recovered	Server data volume was recovered.
Data volume size reduced	Server data volume size was reduced.
Data write error	Server generated an error while writing data.
Data upgrade started	Server data upgrade has started.
Data upgrade completed	Server data upgrade has completed.
Data upgrade failed	Server data upgrade has failed.
Data recovery started	Server data recovery has started.
Data recovery completed	Server data recovery has completed.
Data recovery failed	Server data recovery has failed.
Bookmark save failed	A bookmark failed to save.
Network connection found	Server network connection was found.
Network connection lost	Server network connection was lost.
Email send error	An error was generated while sending an email notification.
Server hardware event	A server hardware error has occurred.
Archiving started	Server backup has started.
Archiving completed	Server backup has completed.
Archiving interrupted	Server backup has failed.
Server connection lost	Server connection to the site was lost.

Event	Description
Analytics server queue full	Video analytics service is unable to process all the objects detected by the system. This typically occurs if the system detects a large number of objects in a short period of time.
Analytics server connection lost	Server is unable to communicate with the video analytics service to perform Avigilon Appearance Search queries.

Device Events

Event	Description
Connection created	A camera or device has connected to a server.
Connection removed	A camera or device has disconnected from a server.
Connection created to standby server	A camera or device has connected to a standby server.
Connection removed from standby server	A camera or device has disconnected from a standby server.
Connection failed	A camera or device connection has failed.
Device failed	A camera or device connection has failed for more than 5 minutes.
Connection restored	A camera or device connection has been restored.
Network packet loss unacceptable	A camera or device network packet loss is unacceptable.
Network packet loss acceptable	A camera or device network packet loss is acceptable.
Motion detection started	Motion detection has started on a camera.
Motion detection ended	Motion detection has ended on a camera.
Video analytics event started	A video analytics event has started.
Video analytics event ended	A video analytics event has ended.
Tampering detected	A video analytics camera or device has detected an unexpected change in the scene.
Recording started	A camera or device recording has started.
Recording ended	A camera or device recording has ended.
Recording interrupted	A camera or device recording was interrupted.
Recording resumed	A camera or device recording has resumed.

Event	Description
Digital input activated	A camera or device digital input was activated.
Digital input deactivated	A camera or device digital input was deactivated.
Firmware upgrade started	A camera or device firmware upgrade has started.
Firmware upgrade completed	A camera or device firmware upgrade has been completed.
Firmware upgrade failed	A camera or device firmware upgrade has failed.
Obsolete firmware detected	A camera or device is detected to be running obsolete firmware. The system is unable to perform an automatic upgrade.
User-defined event started	Customized third-party camera ONVIF event has started.
User-defined event ended	Customized third-party camera ONVIF event has ended.
Presence detected	A presence has been detected in range of an Avigilon Presence Detector sensor.
Presence dwell time exceeded	A continuous presence has been detected in range of an Avigilon Presence Detector sensor for longer than the configured dwell time.
Presence dwell ended	The presence detected for longer than the configured dwell time by an Avigilon Presence Detector sensor has ended.
Presence ended	The presence detected is no longer in range of the Avigilon Presence Detector sensor. If the presence was longer than the configured dwell time, a Presence dwell ended event will also be triggered.

User Events

Event	Description
User login	A user has logged in.
User logout	A user has logged out.
Server setting changed	A user has changed the server settings.
Site setting changed	A user has changed the site settings.
Device setting changed	A user has changed the camera or device settings.
Device connected	A user has connected a camera or device to a server.

Event	Description
Device disconnected	A user has disconnected a camera or device from a server.
Digital output triggered	A user has manually triggered a digital output.
Bookmark added	A user has added a bookmark.
Bookmark updated	A user has updated a bookmark.
Bookmark deleted	A user has deleted a bookmark.
PTZ moved	A user has moved a PTZ camera.
PTZ idle	A user has left a PTZ camera idle.
Export performed	A user has performed a video export.
Speaker activated	A user is broadcasting audio through camera or device speakers.
Speaker deactivated	A user has stopped broadcasting audio.
Virtual matrix monitor opened	A user has opened a Virtual Matrix monitor in the View.
Map added	A user has added a new map.
Map updated	A user has updated a map.
Map deleted	A user has deleted a map.
View added	A user has added a saved View.
View updated	A user has updated a saved View.
View deleted	A user has deleted a saved View.
Web Page added	A user has added a new web page.
Web Page updated	A user has updated a web page.
Web Page deleted	A user has deleted a web page.
Site View updated	A user has updated the way cameras are organized in the System Explorer.
Custom keyboard command triggered	A user has triggered a custom keyboard command.

Alarm Events

Event	Description
Alarm acknowledged	An alarm has been acknowledged.

Event	Description
Alarm auto acknowledged	An alarm has been acknowledged automatically.
Alarm triggered	An alarm has been triggered.
Alarm assigned	An alarm has been assigned to a user.
Alarm unassigned	An alarm has been unassigned from a user.
Alarm purged	An alarm has been purged.

POS Transaction Events

Event	Description
POS transaction started	A POS transaction has started.
POS transaction ended	A POS transaction has ended.
POS transaction exception	A POS transaction exception has occurred.

Access Control Events

Event	Description
Door access denied	<p>Possible reasons:</p> <ul style="list-style-type: none"> • Unknown card • Expired card attempt • Valid card at an unauthorized reader • Deactivated card attempt • Invalid card schedule • Invalid PIN code has been entered • Invalid facility code • Valid card with an incorrect issue level • Antipassback error • Deny count exceeded • Invalid forward card read • Invalid reverse card read • Attempt to open locked door • Two card control violation - second card not presented • Access denied - occupancy limit reached • Access denied - area disabled • Invalid card - before activation

Event	Description
	<ul style="list-style-type: none"> • Invalid facility code ext • Invalid card format • Invalid PIN only request • Door mode does not allow card • Door mode does not allow unique PIN
Door access granted	Possible reasons: <ul style="list-style-type: none"> • Local grant • Opened unlocked door • Local grant - APB error - not used • Local Grant - APB error - used • Facility code grant - not used • Local grant - not used • Facility code grant • Local grant use pending
Door closed	A door closed.
Door forced	A door was forced.
Forced door closed	A forced door was closed.
Door held open	A door was held open.
Held door closed	A held-open door was closed.
Door opened	A door opened.
Door duress	Possible reasons: <ul style="list-style-type: none"> • Duress detected - access denied • Local grant - duress - Not Used • Local Grant - Duress - Used
Door request to exit	Possible reasons: <ul style="list-style-type: none"> • Request to exit Pressed, Non-verified • Request to exit Pressed, Door not used • Request to exit Pressed, Door used • Request to exit Pressed, Use Pending • Host Request to exit, Non-verified • Host Request to exit, Door not used • Host Request to exit, Door used • Host Request to exit, Use Pending

Event	Description
Input activated	An installed ACM panel or subpanel input was activated.
Input deactivated	An installed ACM panel or subpanel input was deactivated.
Input fault detected	An error was detected for an installed ACM panel or subpanel input. Tampering may have occurred.
Input fault cleared	An error detected for an installed ACM panel or subpanel input has ended.

Rule Actions

Rule actions are the response to an event.

User Notification Actions

Action	Description
Display on-screen message	An on-screen message is displayed about the event.
Send email	An email notification is sent to the selected recipients.
Send notification to Central Monitoring Station	A notification is sent to the central monitoring station.
Play a sound	A notification sound is played in the ACC Client software when the event occurs.

Monitoring Actions

Action	Description
Start live streaming	The linked live video stream is displayed when the event occurs.
Video intercom call	The linked live video intercom call opens in a new image panel with a ring tone.
Create Bookmark	The recorded video of the event is bookmarked.
Open a saved view	The selected saved View is automatically displayed.

Device Actions

Action	Description
Reboot device	The camera or device reboots when the event occurs.
Pause device	The camera or device is put on standby when the event occurs. Streaming and recording are paused.

Action	Description
Resume device	The standby camera or device resumes streaming and recording activity when the event occurs.
Activate digital output	A digital output is triggered when the event occurs.
Deactivate digital output	A digital output is deactivated when the event occurs.

PTZ Actions

Action	Description
Go to Preset	The selected PTZ camera moves to the selected preset position when the event occurs.
Go to Home Preset	The selected PTZ camera moves to the home position when the event occurs.
Run a Pattern	The selected PTZ camera runs a selected pattern when the event occurs.
Set Auxiliary	The selected PTZ camera starts the selected auxiliary command when the event occurs.
Clear Auxiliary	The selected PTZ camera ends the selected auxiliary command when the event occurs.

Rule Conditions

Rule conditions are the scenarios that must be met before the rule is triggered.

Device Events

Condition	Description
Digital input is active	The rule is triggered if the connected digital input is active when the event occurs.
Digital input is not active	The rule is triggered if the connected digital input is inactive when the event occurs.

Notifications and Alarms

Configure notifications to alert users of important events.

Alarms

Alarms are custom rules for cameras and devices that immediately bring suspicious activity to the attention of a user. Alarms can be monitored in the ACC Mobile 3 app, available for free on the App Store and Google Play™ store.

Adding an Alarm

1. In the New Task menu , click **Site Setup**.
2. Click **Alarms** .
3. Click **Add**.
4. Choose the trigger source for your alarm.
 - **Motion Detection** — Motion is detected across the camera's field of view.
 - **Video Analytics Event** — A custom event has been triggered on an analytics-enabled camera.
 - **Digital Input Activation** — A signal was detected from an active device on the site.
 - **License Plate Watch list Match** — A camera has detected a registered license plate. Enterprise license required.
 - **POS Transaction Exception** — A POS source has detected an exception to the transaction rules. Enterprise License required.
 - **Device Error** — A device has lost connection, failed to complete a task, or is at risk of tampering.
 - **System Error** — The server has unexpectedly disconnected, storage has encountered a problem, or your licenses have expired.
 - **External Software Event** — An event from a custom integration has been triggered.
5. Select which devices will be involved in the alarm. Click **Next**.
6. Enter a **Pre-Alarm Record Time:** for how long to record before an alarm is triggered, and the **Recording Duration:**. Click **Next**.
7. Add the users and groups that will receive notifications about the alarm. Click **Next**.

Tip: Users with no wait time will be informed of an alarm immediately.

8. Select which actions should be taken when acknowledging the alarm. Click **Next**.
9. Name the alarm, assign a priority, and add a schedule.
10. Click **Finish**.

Editing and Deleting Alarms

1. In the New Task menu , click **Site Setup**.
2. Select your site and click .
3. Click on one of your existing alarms. Click **Add**.
4. Select an alarm and click **Edit** to update or **Delete**  to remove the alarm.
5. Click **Finish** to save changes.

Email Notifications

You can automatically email individuals and groups when events occur.

1. In the New Task menu , click **Site Setup**.
2. Click **External Notifications** .

Configuring the Email Server

When generating email notifications, the ACC Client must have access to an email server.

1. In the Email Server tab, configure the following.
 - **Sender Name:** — The name that will be displayed in each email.
 - **Sender Email Address:** — The email address that will be displayed in each email.
 - **Subject Line:** — The subject displayed in each email.
 - **SMTP Server:** — The server address used by the site.
 - **Port:** — The SMTP port number.
 - **Timeout (seconds):** — The maximum time a server will spend trying to send an email.
2. If the email server uses encryption, select the **Use secure connection (TLS/SSL)** check box. For servers that use STARTTLS encryption, select the **Use STARTTLS** check box.
3. If the email account has a username and password, select **Server requires authentication** check box and enter the credentials.
4. Click **OK**.

Adding Recipients

1. In the **Email Notifications** tab, click **Add**.
2. Name the new email group and add the recipient information.
 - **Add Email** — Manually add a single email.
 - **Add User/Group** — Include a user or group's email.
3. Select the Email Trigger and customize which cameras, devices, or transactions will be included. For more information, see *Email Notification Triggers* on the next page.
4. Select a schedule and enter a limit on email frequency.
5. Click **OK**.

Editing Email Notifications

1. In the New Task menu , click **Site Setup**.
2. Select your site and click **External Notifications** .
3. Select an email group and makes your changes, or click **Remove**  to delete the group.
4. Click **OK**.

Email Notification Triggers

The following table describes the email notification trigger options that are available when setting up an email notification. For more information, see *Email Notifications* on the previous page.

Email Notification Trigger	Description
System event	<p>Email notifications are sent when one of the following rule events occurs:</p> <ul style="list-style-type: none">• Server application starting up• Server application shutting down• Server application terminated unexpectedly• Server application low on resources• Server application installation error• Server connection lost• Server hardware event• Connection created to standby server• Connection removed from standby server• Connection failed• Connection restored• Network connection found• Network connection lost• Network packet loss acceptable• Network packet loss unacceptable• License expires soon• License expired• Database error• Data initialization error• Data volume size reduced• Data write error• Data upgrade started• Data upgrade completed• Data upgrade failed

Email Notification Trigger	Description
	<ul style="list-style-type: none"> • Data volume failed • Data volume recovered • Data recovery started • Data recovery completed • Data recovery failed • Firmware upgrade failed • Recording interrupted • Recording resumed
Motion detected on _	An email notification is sent when camera motion detection has started. You can select the camera.
Digital input activated on _	An email notification is sent when a digital input has been activated. You can select the digital input.
POS transaction exception on _	An email notification is sent when a POS transaction exception occurs. You can select the transaction source.

Central Station Monitoring

If you use a third-party monitoring company, you can automatically send notifications for events using the Rules engine.

Note: Notifications are supported as XML through SMTP, or SIA through IP. Check with your monitoring service for their preferred method.

1. In the New Task menu , click **Site Setup**.
2. Select your site and click **External Notifications** .
3. In the **Central Station Monitoring** tab, enable central station monitoring and select the method for your notification.
4. Add the email or account information for the monitoring company.
5. Set the **Minimum Heartbeat Interval:** to the frequency your monitoring company recommends. This message confirms that your site is communicating with their network.

Tip: Click **Send Test Message** to make sure that you've correctly entered all contact information.

6. Click **Apply** then **OK**.

POS Transactions

The Point of Sale (POS) Transaction Engine is a licensed feature that records raw data from POS transaction sources. You can link cameras to specific POS transaction sources, and set up the system to make note of transaction exceptions.

Adding a POS Transaction Source

You can add multiple devices as sources for transactions, but these sources must be connected to your network.

1. In the New Task menu , click **Site Setup**.
2. Select your server, then click POS Transactions .
3. Click **Add**.
4. Enter the **Hostname/IP Address:** and the **Port:** of your device. Click **Next**.
5. Select the **Data Format** for the source. This format will be used to recognize and capture the device's output. Click **Next**.
6. Select the **Exceptions:** from the source if you require any. Exceptions are the parts of a transaction that are ignored by the system. Click **Next**.
7. Select the cameras or devices to link directly to the POS source as well as their **Pre-Transaction Record Time:** for how long to record before a transaction, and its **Post-Transaction Record Time:**. Click **Next**.
8. Provide a name and description for the transaction source. Click **Finish**.

Now that you have a transaction source, you can format the data. For more information, see *Adding Data Formats* below.

Adding Data Formats

The data received from most devices will need to be formatted to be easily recognized by the system or a user. While adding a new POS Source or editing an existing one, you can customize the output of the device.

1. From the Set Transaction Source Data Format section of the Setup Wizard, click **Add** or select a previous format and click **Edit**.
2. Edit the properties of your new format.
 - **Name** — The name displayed under your list of formats.
 - **Description** — A short explanation of the data and device.
 - **Transaction Start Text:** — The received text that signals the start of each transaction.
 - **Transaction End Text:** — Text that signals the end of a transaction.
 - **Encoding:** — The encoding used by the source device.
3. Use **Capture Data** to receive raw data. You can also save this information, or load a previous example of data.

4. Click **Add Filter...** to format the information. Default formats create line breaks and remove excess spacing.
 - **Text to Match** — Enter the text expected to appear from the device, and choose whether to make your search case-sensitive or required to match the entire word.
 - **Action to Take:** — Decide if the transaction responds by removing the item, or replacing the detected text.

Note: Add as many filters as you want for the data.

5. Click **OK** to add the filter.
6. Click **OK** to save your configured data format.

Adding Transaction Exceptions

By adding exceptions to your transactions, the software will help identify unauthorized discounts, manual price overrides, and false refunds.

1. From the Set Transaction Exceptions section of the Setup Wizard, click **Add** or select a previous exception and click **Edit**.
2. Add a name for the exception.
3. Select which type of exception the system will search for.
 - **Match Text** — Enter the text expected to appear from the device.
 - **Match Value** — Enter the value and its expected relationship, whether equal to, less or more than, or between. You can also add any text that will appear before or after.
4. Click **OK**.

Editing POS Transaction Sources

1. In the New Task menu , click **Site Setup**.
2. Select your server, then click **POS Transactions** .
3. Select a transaction source, then click **Edit** to change source details, or **Delete** to remove the source.
4. Use the POS Transactions Setup wizard to update the POS source, and click **Next** to move between fields.
5. When you're finished, click **Next** until you reach the end of the wizard and then click the **Finish** button.

Joystick Settings

There are two types of joysticks supported by the ACC Client: standard Microsoft DirectX USB joysticks and the Avigilon USB Professional Joystick Keyboard.

Use the Joystick settings to configure your joystick options.

Configuring an Avigilon USB Professional Joystick Keyboard for Left-Hand Use

The Avigilon USB Professional Joystick Keyboard is a USB add-on that contains a joystick for controlling zooming and panning within image panels, a jog shuttle for controlling the Timeline, and a keypad programmed with the ACC Client software keyboard commands. For more information about the keypad commands that control the ACC Client software, see *Keyboard Commands* on page 126.

By default, the keyboard is installed in right-hand mode. Change the Joystick settings to configure it for left-hand mode.

1. Connect the keyboard.
2. In the top-right corner of the ACC Client, select  > **Client Settings** > **Joystick**.

If the keyboard is not automatically detected, an error message is displayed. Click **Scan for Joysticks...**
3. Select the **Enable left-hand mode** check box.
4. Click **OK**. The keyboard is now configured for left-hand mode.
5. Rotate the keyboard until the joystick is on the left and the jog shuttle is on the right. Reinstall the keypad cover with the View button labels at the top.

For more information about the Avigilon USB Professional Joystick Keyboard, see the installation guide that is included with the device.

Configuring a Standard USB Joystick

Use the Joystick settings to configure the buttons used in your standard Microsoft DirectX USB joystick.

1. Connect the joystick.
2. In the top-right corner of the ACC Client, select  > **Client Settings** > **Joystick**.
3. If the joystick is not automatically detected, an error message will appear. Click **Scan for Joysticks...**
4. Choose an action for each button on the joystick:
 - a. Press a button on the joystick to highlight its label in the dialog box.
 - b. Select an action for the button from the drop-down list.

Options include ways to control recorded video, Views, image panels, instant replay, audio, snapshots and PTZ.
 - c. Repeat this procedure for each button on the joystick.
5. Click **OK**.

Maps

You can create and manage maps that can be monitored in the View tab. Operators can interact with video or alarms from cameras on the map.

Adding a Map

You can add a JPEG, BMP, PNG, or GIF as a layout of your site.

Tip: Maps should be smaller than 3000 x 3000 pixels.

1. In the System Explorer, right-click on your site and select **New Map**.
2. Add a name and click **Change Image...** to upload your map.
3. Select the location of the map in your site hierarchy.
4. Click **OK**.

After a map has been added, you can add camera locations and their view.

Adding Cameras to a Map

After you've uploaded a map, add cameras and highlight their field of view.

1. In the System Explorer, right-click on your map and select **Edit**.
2. Click and drag a camera from the System Explorer to add it on the map.
3. Customize the appearance, direction, and size of the camera.
 - **Size** — How large the icon is in relation to the map.
 - **Show As:** — Display the camera as an icon or shape.
 - **Icon, Shape & Cone Color** — The color of the camera con or shape.
 - **Preferences** — Display the field of view, name, or camera region.
 - **Delete from Map** — Remove the camera from the map.
4. In the toolbar, click **Save**.

Editing and Deleting Maps

You can update a map or delete an old map anytime.

- In the System Explorer, right-click  then select one of the following:
 - To edit the map, select **Edit...**
 - To delete the map, select **Delete**. When the confirmation dialog box appears, click **Yes**.

For more information, see *Using a Map* on page 114.

Web Pages

Adding a Web Page

If you're connected to the internet, you can add web pages to a site in your System Explorer. Operators can use these web pages for quick access to your ACM appliance or other pages related to your surveillance system.

1. In the System Explorer, right-click a site or site folder and select **New Web Page...**
2. Enter a web page **Name:** and **URL:**
3. Select a **Zoom level:** to view the web page inside an image panel.
4. If it is not displayed, click  to display the Site View Editor and choose where the web page appears in the System Explorer. By default, the web page is added to the site you initially selected.
 - In the  site directory, drag the web page **URL** up and down the right pane to set where it is displayed.
 - If your site includes  folders, select a location for the web page **URL** in the left pane. The right pane updates to show what is stored in that directory.
5. Click **OK**.

Editing and Deleting Web Pages

If a web page address is out of date, you can update the web page or delete the web page from the site.

- In the System Explorer, right-click **URL** then select one of the following:
 - To edit the web page, select **Edit...**
 - To delete the web page, select **Delete**. When the confirmation dialog box is displayed, click **Yes**.

For more information, see *Opening a Web Page* on page 115

Using ACC

For operators who spend time monitoring live and recorded video or investigating events, this section covers how to control and search video, use devices, and export clips.

Managing Views

Operators can monitor live and recorded video in a View tab. The View tab contains a layout of image panels that lets you organize how video is displayed.

You can share Views with other users during investigations.

Adding and Removing Cameras

At any point in time, you can add and remove cameras to your View using your System Explorer.

- Click and drag a camera from the System Explorer to an empty image panel in the **View** tab.

Tip: You can view the same camera in multiple image panels to maintain different zoom levels.

- To remove the camera, in the top-right corner of the image panel click .

Maximizing Image Panels

In the top-right corner of the image panel, click  to maximize the video. Click  to return to the previous size.

Cycling Cameras

Note: You can only cycle through cameras with a Logical ID. For more information, see *Setting a Device's Identity* on page 31.

When there are many cameras across your site, cycle through those cameras to preview video before opening them in a new image panel.

- Hold / and press + to preview the next camera.
- Hold / and press - to preview the previous camera.

For more shortcuts, see *Keyboard Commands* on page 126.

Adding and Removing Views

In the ACC Client software, you'll use Views to monitor video. Each View is its own tab and can display multiple different cameras.

1. Click  to add another View.
2. To close a view, click .

For more information, see *Adding and Removing Cameras* on the previous page.

Maximizing Views

In the toolbar, click  to maximize the View. Click  to return to the previous size.

Cycling Views

If you have multiple View tabs open, you can cycle through them by displaying each one a few seconds at a time.

1. Access cycle settings by clicking  > **Client Settings** > **General**.
2. Set the **Cycle dwell time**: to decide how long a camera will display.
3. Click **OK**.
4. In your View tab, click  to enable cycling. Clicking again will disable cycling.

View Layouts

Customize the number and shape of image panels in your View by editing the View Layout.

1. In the toolbar, click .
2. Select a configured layout or click **Edit Layouts** to create a custom configuration.
3. If you are creating a custom configuration, select a layout and enter the number of columns and rows.

Tip: Click on the dotted or red borders to increase or decrease the size of an image panel. Up to 64 cameras can fit in a View.

4. Click **OK** to save.

Saving Views

After you've customized a View, you can save and share it with users across your site. Saved Views appear in the System Explorer.

Saving a View

1. In the toolbar, click  > **Save As New View**.
2. Select the site you'll add the view to, assign a name, and then add a unique number as the Logical ID to mark the view in your site.

Tip: Click  to choose where to display the View in the System Explorer.

3. Click **OK** to save your view.

Editing a Saved View

1. Open a saved View.
2. Make any required changes to the View tab.
3. In the toolbar, select  > **Update Saved View**.

Renaming a View

1. In the System Explorer, right-click  and select **Edit** or **Delete**.
2. Update the Name or Logical ID.
3. Click **OK** to update the View.

Deleting a Saved View

1. In the System Explorer, right-click  and select **Delete**.
2. In the confirmation dialog box, click **Yes**.

Controlling Live and Recorded Video

When you monitor video, you can choose to watch live and recorded video in the same View tab, or only one type of video per View tab.

Once you've added cameras to the View tab, you can do the following:

- To switch all of the image panels in the View between live and recorded video, click either  **Live** or  **Recorded** on the toolbar.
- To switch individual image panels between live and recorded video, right-click the image panel and select either **Live** or **Recorded**.

Tip: If you cannot see either  **Live** or  **Recorded** on the toolbar, you may need Dual Authorization. For more information, see *Requesting Dual Authorization* below.

Requesting Dual Authorization

If your system has enabled Dual Authorization, a second user must also log in to your ACC site before you can see recorded video.

Request permission from a user with authorization power.

1. In the System Explorer, right-click the  site then select **Dual Authorization Log In**.
2. The second user must enter their username and password.
3. Click **Log In**.

You now have access to recorded video.

Manually Recording Video

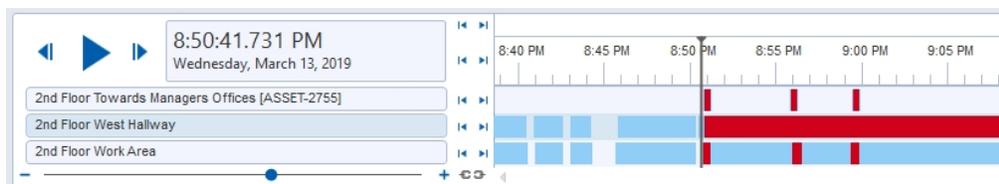
Manual Recording requires the Record Indicator overlay to be enabled. For more information, see *Video Overlays* on page 69.

From the moment that you notice unusual behavior or an event, you can begin recording.

1. In the image panel you want to record, click  in the top left corner start recording. The blue icon indicates recording has started.
2. Click  to end recording.

Playing Recorded Video with the Timeline

The Timeline displays when video was recorded and lets you control video playback. Recorded video may be stored on the ACC Server or the archive storage location.



The colored bars on the Timeline show the camera's recording history:

-  — shows the camera has recorded a motion event.
-  — shows the camera has recorded video.
-  — is a bookmark of a recorded event.
- Empty areas show that there is no recorded video.

For more information about bookmarks, see *Bookmarking Recorded Video* on page 124.

Using the Timeline

To...	Do this...
Select a playback time	<ul style="list-style-type: none">Click the date and select a specific date and time.
Start playback	<p>Click .</p> <ul style="list-style-type: none">Click  to fast forward. Click again to increase the playback speed. Maximum speed is 8x.Click  to rewind. Click again to increase the playback speed.
Stop playback	<p>Click .</p> <ul style="list-style-type: none">Click  to go forward one frame.Click  to go backward one frame.
Jump forward or backward	Click  or  to jump forward or backward by a day, minute, or by camera event.
Zoom in or out of the Timeline	<ul style="list-style-type: none">Move the slider on the bottom left.Place your mouse over the Timeline and scroll. <p>You can zoom in to a quarter of a second, and zoom out to see years if recorded video exists.</p>
Pan the Timeline	<ul style="list-style-type: none">Move the horizontal scroll bar under the Timeline.Right-click and drag the Timeline.
Center the Timeline	Right-click the Timeline, and select Center on Marker .

Using Instant Replay

To review an event that just occurred, you can immediately access recently recorded video through the instant replay feature.

- Right-click the image panel and select one of the instant replay options:
 - Replay - 30 Seconds**
 - Replay - 60 Seconds**
 - Replay - 90 Seconds**

Viewing Unusual Motion Events

When viewing recorded video from an Unusual Motion video analytics device, the Timeline displays both motion events and Unusual Motion events. You can filter the Timeline to display Unusual Motion events only.

1. In the top-left corner of the Timeline, select the **Unusual Motion** check box.
2. Select the **Skip Play** check box to skip to the next Unusual Motion event when playing video.
3. Select which **Anomaly Type** to display:
 - **All** — All Unusual Motion events.
 - **Speed** — Events with unusual speed.
 - **Direction** — Events with unusual direction.
 - **Location** — Events in areas where motion does not typically occur.
4. Move the **Rarity** slider to set how rare an event must be. Keep the slider towards the right to reduce noise.
5. Enter a **Minimum Duration** between 0-59 seconds to set how long an event must last. The default value is 2 seconds.
6. Use the Timeline controls to view the event video.

Unusual Motion is trailed by bounding boxes. Image panels without Unusual Motion are dimmed.

You can bookmark and export Unusual Motion events like other video analytics events. For more information, see *Bookmarking Recorded Video* on page 124 and *Exporting Video* on page 122.

Zooming and Panning

To get a better look at events in video, you can zoom or pan to focus on a section of the camera's field of view.

These tools are available on the right side of the toolbar.

Zooming

1. Click  and then click on the image panel to zoom in.
2. Click  and then click on the the panel to zoom out.

Panning

- Click  then click and drag an image panel to pan.

For more information, see *Keyboard Commands* on page 126.

Controlling PTZ Cameras

Pan, Tilt, Zoom (PTZ) controls allow you to control cameras with PTZ features. You can control a PTZ camera by using the on-screen controls or by using the tools in the PTZ Controls pane.

For other ways to use the PTZ Controls, see *Keyboard Commands* on page 126.

Note: For video analytics devices, classified object detection only works when the camera is in its Home position.

1. In the toolbar, click . PTZ controls are now enabled in image panels that are displaying PTZ video.
2. In the image panel, click .

The PTZ Controls are displayed in a floating pane immediately beside the image panel.

Note: The controls may appear differently depending on the camera. Some options are disabled or hidden if they are not supported by the camera.

3. To pan or tilt, do one of the following:
 - In the image panel, drag your mouse from the center to move the camera in that direction. The farther the cursor is from the center of the image panel, the faster the camera will move.
 - If the camera supports Click to Center, click anywhere on the image panel to center the camera to that point.



4. Use the other PTZ controls to perform any of the following:

To...	Do this...
Zoom	<ul style="list-style-type: none"> • Click  to zoom in. • Click  to zoom out. • Click the image panel and use the mouse scroll wheel to zoom in and out. • If the camera supports Drag to Zoom, click and drag to create a green box to define the area you want to zoom in and see. • Right-click the image panel and select Zoom Out Full.
Control the iris	<ul style="list-style-type: none"> • Click  to close the iris. • Click  to open the iris.
Control the focus	<ul style="list-style-type: none"> • Click  to focus near the camera. • Click  to focus far from the camera.

To...	Do this...
Program a PTZ preset, pattern, or tour	For more information, see <i>PTZ Presets, Patterns, and Tours</i> below.
Activate a PTZ preset	Select a preset then click  .
Return to the Home preset position	If the PTZ camera supports a Home preset position, click  to return the camera to its Home position.
Activate a PTZ pattern	In the PTZ Controls pane, select a pattern number and click  . The pattern will repeat until the pattern is stopped or another pattern is run.
Activate a PTZ tour	In the PTZ Controls pane, select a tour number and click  . The tour will repeat until stopped or until other PTZ controls are used.
Activate an auxiliary command	<ol style="list-style-type: none"> 1. Select an aux command number and click . 2. Click  to turn off the auxiliary output.
Display the PTZ camera on-screen menu	<ol style="list-style-type: none"> 1. Click . 2. To move through the menu options, click any of the following: <ul style="list-style-type: none"> • Click  to move down the options. • Click  to move up the options. • Click  to confirm your selection. • Click  to cancel your selection.
Lock the PTZ controls	Click  . Other users will be unable to use the PTZ controls for this camera until you unlock the controls or log out.

PTZ Presets, Patterns, and Tours

PTZ cameras can be controlled through the image panel on-screen controls or by using the tools in the PTZ Controls pane.

Some tools and features may not be displayed if they are not supported by your camera.

Note: For video analytics devices, classified object detection and analytic events only work when the camera is in its Home position.

Accessing the PTZ Controls Pane

1. In the top-right corner of the View toolbar, click .
2. In the bottom-right corner of the image panel, click .

Adding a PTZ Preset

1. Move the camera's field of view into position.
2. In the **Presets** drop-down list, select a number then click .
3. In the dialog box, enter a name for the preset.
4. Select the **Set as home preset** check box if you want this to be the camera's Home preset.
5. Click **OK**.

Adding a PTZ Pattern

1. In the PTZ Controls pane, select a pattern number and click .
2. Use the PTZ controls to move the camera and create the pattern.
3. Click  to stop recording the pattern.

Adding a PTZ Tour

If supported, tours allow the PTZ camera to automatically move between a series of preset positions. You can set tours to pause at each preset for a specific amount of time for video monitoring.

1. Create all the PTZ presets you need for this tour.
2. In the PTZ Controls pane, select a tour number then click . The Edit PTZ Tour dialog box is displayed.
3. Give the tour a name.
4. In the **Tour Pause Duration:** field, enter the amount of time before the tour repeats. Tours repeat until manually stopped, or until other PTZ controls are used.
5. In the **Tour Mode:** drop-down list, select one of the following:
 - **Sequential:** the PTZ camera will go to each preset in the set order.
 - **Random:** the PTZ camera will go to each preset in random order.
6. Select the **Set as default tour** check box if you want this tour to run automatically.
 - The **Default Tour Idle Start Time:** field is now enabled. Enter the amount of time the PTZ camera must be idle before this tour automatically starts.

7. To add a preset to the list, click 
 - a. In the **Preset** column, select a preset from the drop-down list.
 - b. In the **Move Speed** column, enter how fast you want the PTZ camera to move to this preset. The higher the %, the faster the camera moves.
 - c. In the **View Time** column, enter the amount of time you want the PTZ camera to stay at this preset position. The view time is 10 seconds by default.
 - d. Repeat this step until all the presets for the tour have been added.
8. To remove a preset, select the preset then click .
9. To re-order a preset, select the preset then click  or . The preset order only affects tours that use Sequential mode.
10. Click **OK** to save the tour.

Activating a Preset, Pattern, or Tour

- Select a preset, then click .
- Select a pattern or tour number, then click .

Synchronizing Recorded Video Playback

Synchronizing recorded video playback allows you to synchronize Timelines across multiple tabs while they are in recorded mode.

Synchronized recorded video playback is disabled by default. Once it is enabled, it will remain enabled until it is manually disabled.

Note: Tabs can only be synchronized to one time. You cannot synchronize groups of tabs to separate times.

Enabling Synchronized Playback

- To enable synchronized video playback in all new View tabs, select  > **Client Settings** > **General** > **Synchronize recorded video playback**.

The Timelines in new View tabs are automatically centered on the current time.

Enabling synchronized recorded video playback in the Client Settings dialog box will not synchronize the Timelines of previously opened tabs, it will only synchronize new tabs that are opened after enabling synchronized recorded video playback. Previously opened tabs need to be synchronized individually.

- To synchronize playback between specific tabs, click  at the bottom of each Timeline. The icon changes to  to show that it is now synchronized.

The Timeline will synchronize with the first tab you selected.

Disabling Synchronized Playback

- To disable synchronized recorded video playback in all new View tabs, clear the **Synchronize recorded video playback** check box in the Client Settings dialog box.

Previously synchronized tabs will remain synchronized.

- To disable synchronized video playback in individual tabs, click  at the bottom of the Timeline. The icon changes to  to show that synchronized playback is disabled.

The Timeline will continue to display the same time but will no longer be synchronized with other Timelines.

Standby Mode

If a device is in Standby mode, the image panel will stop streaming video and display: **Standby**.

Video streaming and recording are paused until the device is no longer in Standby mode.

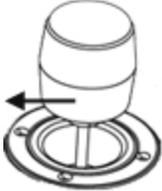
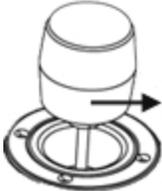
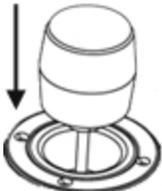
For more information, see *Configuring Standby Mode* on page 69.

Using Joysticks

The ACC Client software supports two types of joysticks, the Avigilon USB Professional Joystick Keyboard and standard USB joysticks. After your joystick has been configured, you can use it to pan, tilt, zoom, and more. For more information, see *Configuring a Standard USB Joystick* on page 96.

Note: Some third-party joysticks may require additional custom configuration.

Command	Keyboard	Joystick
Toggle PTZ Control	Ctrl + D	
Zoom In	+	
Zoom Out	-	

Command	Keyboard	Joystick
Pan Left	←	
Pan Right	→	
Tilt Up	↑	
Tilt Down	↓	
Open Iris	Home	
Close Iris	End	
Focus Near	Insert	
Focus Far	Delete	
Move Menu Left	←	
Move Menu Right	→	
Move Menu Up	↑	
Move Menu Down	↓	

Command	Keyboard	Joystick
Activate Preset	Q + <Preset #>	 + <Preset #> + 
Run Pattern		 + <Pattern #> + 
Start Auxiliary	W + <Aux #>	 + <Aux #> + 
Stop Auxiliary	E + <Aux #>	 + <Aux #> + 

Live Monitoring

Use configured features to monitor your site effectively.

Note: Some features are only available if the site has the required license, and if you have the required user permissions.

Identity Verification

Note: To use this feature, your ACM identity must be imported into the ACC software and have the appropriate ACM permissions. For more information, see *Importing ACM Roles* on page 64. Contact your ACM administrator to update your permissions.

If your camera is linked to a door in the ACM appliance, you can monitor authorized and unauthorized door activity in an adjacent image panel.

- In the top-right corner of an image panel, click  and select the door you want to monitor.

An identity verification image panel is displayed. The most recent activity is displayed at the top.

Tip: You can resize the badge photo using the slider at the top of the identity verification image panel.

When someone swipes an ACM badge, the identity verification image panel displays a card with the following information if available:

- Badge photo
- First and last name
- Date and time
- ACM door event

Compare the video to the badge photo to verify the person's identity and prevent unauthorized access.

Note: The identity verification image panel does not update while viewing recorded video or another tab.

Monitoring POS Transactions

If a camera is linked to a point of sale (POS) transaction source, you can monitor transactions while watching video from the linked camera. Each transaction is separated by date and time, with the most recent transaction highlighted in blue.

1. In the top-right corner of the image panel, click .
2. Select a POS transaction source, then click **OK**. Transactions will display in the next image panel.

Tip: Review previous transactions by hovering on the transaction image panel and scrolling up.

Displaying Cameras Linked to POS Sources

1. Click  in the POS transaction image panel.
2. Select a camera, then click **OK**.

Browsing the ACM Appliance in the ACC Client

If a web page for an ACM appliance was configured, ACC operators can access it in the ACC Client software.

Click and drag **URL** from the System Explorer to an image panel.

The web page will display in that image panel.

- ACC operators logged in with their ACM credentials will automatically be logged in to the ACM appliance.
- ACC operators without ACM credentials may see a certificate warning when they first open the web page. Click **Trust** to continue to the log in page.

Note:

If the ACM session times out, operators will need to log in again.

- ACC operators logged in with their ACM credentials will automatically be logged in again when they close the dialog box.
- Administrators can change an operator's timeout settings in the ACM appliance.

Using a Map

You can open a map in any image panel, then view video or alarms by interacting with the map.

1. To open a map in an image panel, double-click  in the System Explorer.
2. When the map appears in an image panel, do any of the following:



To...	Do this...
Display video from a camera on the map	<ul style="list-style-type: none"> Click the camera on the map.
Display a preview of the video from a camera	<ul style="list-style-type: none"> Hover over a camera in the System Explorer or on the map.
Open a linked map	<ul style="list-style-type: none"> Click the map icon on the map. <p>You can use the Forward and Back buttons to move between maps.</p>
Open a linked View	<ul style="list-style-type: none"> Click the saved View on the map.

For more information, see *Maps* on page 96.

Opening a Web Page

If your System Explorer contains web pages for quick access to your ACM appliance or related to your surveillance system configured, you can access them in the View tab.

Click and drag **URL** from the System Explorer to an image panel.

The web page will display in that image panel.

For more information, see *Web Pages* on page 98.

Using Linked Devices

If you have devices linked to cameras, you can control them from the ACC Client software.

Note: Some features are only available if the site has the required license, and if you have the required user permissions.

Granting Door Access

Note: To use this feature, your ACM identity must be imported into the ACC software and have the appropriate ACM permissions. For more information, see *Importing ACM Roles* on page 64. Contact your ACM administrator to update your permissions.

If your site is connected to an ACM appliance, you may be able to grant door access from any camera that is linked to a door.

1. Open the camera's video in an image panel.
2. Confirm that the person in the video has permission to use the door.
3. In the top-left corner of the image panel, click .

Note: If the camera is not linked to a door, the icon is not displayed.

If there is more than one door linked to the camera, you will be prompted to select one.

Using Video Intercom

Video Intercom allows you to verify the identity of visitors before allowing access to secure areas by answering calls from a device.

1. When a call is displayed, click  to answer or  to ignore the call.
2. If connected to an ACM appliance, click  to allow access.
3. Click  to end the call.

Tip: Multiple ACC operators can answer or join a call, and you can record the conversation to be reviewed later.

Using Audio

The camera's microphone and speakers must be enabled before you can listen to or broadcast audio. For more information, see *Configuring the Device Microphone* on page 42 and *Configuring the Device Speakers* on page 43.

Configuring Two-Way Audio

You can choose between Full-duplex audio, which allows simultaneous communication, or Half-duplex audio, which only allows communication from one side at a time.

1. In the top-right corner of the Client, select  > **Client Settings**.
2. In the Client Duplex Audio Setting: area, select **Full-duplex** or **Half-duplex**.
3. Click **OK**.

Listening to Audio

When an audio input device linked to a camera, the  button is displayed in the image panel of the camera's video. By default, the audio is muted.

- In the lower-right corner of the image panel, click  to mute or activate the audio.
- Move the slider to change the volume.

Broadcasting Audio in a View

If there are speakers linked to a camera, the  button is displayed in the image panel when you watch the camera's video. This button allows you to broadcast your verbal response to what is occurring in the video, like a Public Address (P.A.) system.

1. To broadcast audio, hold  and speak into your microphone. The moving red bar confirms your microphone's levels. If the level is low, speak louder or adjust the microphone volume in the Windows Control Panel.
2. Release the button to stop the broadcast.

Triggering Digital Outputs

While you monitor live video in an image panel, you can manually trigger any digital output that is connected to the camera.

Digital outputs are configured in the Digital Inputs and Outputs dialog box. For more information, see *Configuring Digital Outputs* on page 41.

To trigger a digital output:

1. Open the camera's live video in an image panel.
2. In the image panel, click .
3. If there is more than one digital output linked to the camera, you will be prompted to select the digital output you want to trigger.

Searching

You can quickly search through a camera's recorded history for video of an event.

Search can be accessed in the following ways:

- In the New Task menu , select a Search option.
- In Recorded mode, click  in the toolbar and then select a Search option.
- While viewing recorded video, click  in the image panel and then select a Search option. This search will only be performed on the selected camera video.

Note: Some features are only available if the site has the required license, and if you have the required user permissions.

Identity Search

Note: To use this feature, your ACM identity must be imported into the ACC software and have the appropriate ACM permissions. For more information, see *Importing ACM Roles* on page 64. Contact your ACM administrator to update your permissions.

You can search for an individual by their name or badge ID. This search displays door events using the person's badge, as well as video from linked cameras.

1. In the New Task menu , click  **Identity**.
2. Enter the person's name or badge ID and press **Enter**.
3. Select the person of interest.
4. Click **Date Range** to set the date and time of your search.
5. Click **Doors** to select the doors to include.
6. Click **Search**.

Up to 50 of the person of interest's most recent door events are displayed. Thumbnails of video from linked cameras are displayed under each door event. For more information, see *Identity Search Results* below.

Identity Search Results

A search result may show video from 5 seconds before or after a door event. This video may not always match the person of interest, and some search results may not have video if the camera was not scheduled to record at that time.

Review and refine your results as needed.

Refining Results

1. In the **Identity Details** area, select what types of door events to show.
2. In the top-left area, click **Change Doors** to add or remove doors from the search. Click  to edit the date range.
3. Click a thumbnail to view associated video in the image panel. Click  to zoom in on the image from the video.

Saving Results

- Hover over a thumbnail and select the check box of all results you want to bookmark or export.
 - Click **Bookmark** to save the event for quick access.
 - Click **Export** to download a copy of the event.

For AVI video exports, select the **Blur background** check box to obscure everything except the detected person.

Searching Events

Search for configured events in recorded video.

1. In the New Task menu , click  **Events**.
2. Select the cameras to include in your search.
3. Enter a **Date Range** or use the Timeline range markers to set the date and time of your search.
4. Select the type of events to include in your search:
 - **Motion Events** — Motion has been detected in the target area.
 - **Digital Input Events** — A signal has been sent from a device.
 - **Classified Object Events** — A person or vehicle has been detected in the configured region of interest.
 - **Tampering Events** — A device detected an unexpected change in the scene.
 - **Arbitrary Events** — A third-party device or software has triggered an event.
 - **Presence Events** or **Presence Dwell Events** — The Avigilon Presence Detector™ sensor has detected an individual.
5. Click **Search**.

Your search results are displayed. For more information, see *Reviewing Search Results* on page 121.

Searching Motion

Search for motion events from cameras configured for Classified Object Motion or Pixel Motion detection events.

Classified Object Motion

1. In the New Task menu , click  **Motion**.
2. Select the cameras to include in your search.
3. Select **Classified Object Motion** and update the following:
 - **Object Types:** — select the objects to search for.
 - **Confidence:** — set how certain the system must be that it identified the correct object type.
 - **Minimum Threshold Time:** — set how long the object must be in the scene before it is

considered a search result.

- **Show Results As:** — select whether to display each classified object as an individual search result or as a single search result if multiple objects are detected within the time entered.
4. Enter a **Date Range** or use the Timeline range markers to set the date and time of your search.
 5. In the camera preview, adjust the green region of interest to specify the search area. You can add or remove areas to exclude from the search as needed.
 6. Click **Search**.

Your search results are displayed. For more information, see *Reviewing Search Results* on the next page.

Pixel Motion

1. In the New Task menu , click  **Motion**.
2. Select the cameras to include in your search.
3. Select **Pixel Motion** and update the following:
 - **Motion Activity Image Overlay:** — highlights detected motion with a red overlay if enabled.
 - **Threshold:** — specify how many pixels must move to be defined as motion. A higher threshold provides fewer false results.
 - **Join results less than** — set the minimum time between search results. Enter up to 100 seconds.
4. Enter a **Date Range** or use the Timeline range markers to set the date and time of your search.
5. In the camera preview, adjust the green region of interest to specify the search area.
6. Click **Search**.

Your search results are displayed. For more information, see *Reviewing Search Results* on the next page.

Searching Text Source Transactions

Search for specific transactions recorded by a POS transaction source.

1. In the New Task menu , click  **Text Source Transactions**.
2. Select the POS transaction sources you want to include in your search.
3. Enter a **Date Range** or use the Timeline range markers to set the date and time of your search.
4. In the **Search Text:** field, add any product name or transaction value you want included in your search.

Tip: Leaving the text field blank will search for all transactions.

5. Click **Search**.

Your search results are displayed. For more information, see *Reviewing Search Results* below.

Searching Thumbnails

When examining video for changes, use the Thumbnail search to display a series of comparison images over time.

1. In the New Task menu , click  **Thumbnails**.
2. Select the cameras to include in your search.
3. Enter a **Date Range** or use the Timeline range markers to set the date and time of your search.
4. Click **Search**.
5. Double-click a thumbnail to narrow your search or click **Open In View** to display the result in a new View tab.

Tip: Click Step Out to return to the previous series of thumbnails.

Reviewing Search Results

After completing a search, you can review and save your results.

Reviewing Results

- Use the Timeline to watch and review the event video.
- Click **Add to new View** to display the results in a View tab.
- Click **Perform a motion search on this event** to further refine your search.

Saving Results

- Click **Export this event** to download a copy of the event as video, image, or audio. For more information, see *Exporting* on the next page.
- Click **Export results to a file** to download a CSV or text file of search results.
- Click **Bookmark this event** to save the event for quick access. For more information, see *Bookmarking Recorded Video* on page 124.

Exporting

You can export video in multiple video and image formats. The Export tab can be accessed from bookmark options, the New Task menu and any Search tab.

You can also export snapshots of an image panel as you monitor video.

Exporting Video

When you export a video, you can do so as an AVI file or in the Native AVE format. The Native format requires the Avigilon Player software, which lets users view recorded video with Timeline controls and search capabilities.

1. In the New Task menu , click **Export** .
2. Select **Native** or **AVI video** to format your export. If you select Native, you can password protect your export.
3. Select the cameras to include, then use the Timeline range markers to set the date and time.

Tip: Click **Add Clips** to export multiple cameras and time ranges at once.

4. Set the quality of the export video.
 - **Native video** — Select a high image rate to maintain quality or a low one to condense file size. Set the maximum file size.
 - **AVI video** — Select the video's final resolution and information overlays. You can also crop the field of view to export.
5. Click **Start Export**.

Tip: Click **Burn to Disc** to save your video on CD, DVD, or Blu-ray.

Exporting Audio

While all exported videos automatically include recorded audio, you may only need the audio from a device's feed.

1. In the New Task menu , click **Export** .
2. Select **WAV audio** as your format.
3. Select the cameras to include, then use the Timeline range markers to set the date and time.

Tip: Click **Add clip** to export multiple cameras and time ranges at once.

4. Click **Start Export** to save the file.

Exporting Images

If you've captured video of an object or individual, you can export it as a series of still images in several formats.

Tip: You can export a single image from an image panel by clicking .

1. In the New Task menu , click **Export** .
2. Select **PNG**, **JPEG**, or **TIFF** to format your image.
3. Select the camera, then use the Timeline range markers to set the date and time.
4. Enter the number of images you want to export from your camera.

Tip: Click **Add clip** to export multiple cameras and time ranges at once.

5. Set the quality of the JPEG image or select the resolution for other image types.
6. Select how many images to export:
 - In the **Image Rate:** drop-down list, select how many images per second are exported. To define a specific image rate, select **Custom (ips)** and enter an image rate. A custom image rate of 1 minute and 0 seconds will export one frame per minute of video.
 - In the **Images to Export:** field, enter the maximum number of images that can be exported or keep the default Unlimited setting.
7. Select which information overlays to include.
8. To crop the scene, click **Change Image Region...** or to change the contrast, click **Display Adjustments...**
9. Click **Start Export** to save the file.

Print and PDF

If you prefer a physical copy of an image, you can directly print or generate a PDF with export notes.

1. In the New Task menu , click **Export** .
2. Select **PDF file** or **Print image** as the format.
3. Select the cameras to include, then use the Timeline range markers to set the date and time.
4. Select which information overlays to include.
5. Click **Start Export** to save the file.

Bookmarking Recorded Video

You can add bookmarks to recorded video to help you find and review an event later. Bookmarked video can be protected against scheduled data cleanup so that the video is never deleted.

Adding a Bookmark

Tip: You can add a bookmark any time the Timeline is displayed.

1. Drag the time marker to where you want to start the bookmark, then right-click the Timeline and select **Add Bookmark**.
2. Enter a name for the New Bookmark.
3. In the **Cameras:** pane, select all the cameras that need to be attached to this bookmark.
You can only bookmark multiple cameras from the same site.
4. Enter a **Time Range to Bookmark:** or move the black time range markers on the Timeline.
5. In the **Description:** field, enter any extra information that you want to include with the bookmark.
6. To protect the bookmark video from being deleted, select the **Protect bookmark data** check box.

Note: Protected bookmarks are never deleted. These videos take up space and can become the oldest video on the server.

7. To make the bookmark private, select the **Bookmark is private** check box. Private bookmarks are only visible to the user who marked the bookmark as private, and the system administrator. No one else will have access to the bookmark.
8. Click **OK**.

Managing Bookmarks

1. In the New Task menu , click .
2. In the **Search** field, enter the bookmark name to find it in the list.
3. Select a bookmark and use the Timeline to review the video.
4. Select one or more bookmarks, and click one of the following:
 -  — Prevents the video from being deleted. These videos take up space and can become the oldest video on the server.
 -  — Removes protection.
 -  — Downloads the video.
 -  — Removes the bookmark tag from the recorded video.
 - **Perform a motion search on this event** — Begins a Motion Search.
 - **Edit this bookmark** — Updates the bookmark name, description, time range, or cameras.
 - **Export results to a file** — Exports a CSV or text file of all the bookmark details.

Archiving Recorded Video

Storage Management must be enabled in the Avigilon Control Center Admin Tool or ES device web interface before you can archive video.

You can archive video from any number of cameras in your system for an extended time range.

Files are always archived in Avigilon Backup (AVK) format and playable using the Avigilon Player.

1. In the New Task menu , click .
2. In the System Explorer, select all cameras from a single server that you want to archive.
3. In **Archive Options**, set the time range of the archive.
4. Select the **Delete oldest archives when disk full** check box will overwrite old archive files when the archive folder is full.
5. Click **Start Archiving**.
6. When the archive is complete, click **OK**.

Each video archive is saved in a subfolder that is named after the archive time range.

Additional Support

Find contact information for Avigilon Customer Support, system requirements, upgrade guides, and keyboard commands.

Keyboard Commands

Use any of the keyboard commands below to help you navigate the Avigilon Control Center Client software.

The Key Combination column shows the commands used on a standard keyboard, while the Keypad Combination column shows the commands used on an Avigilon USB Professional Joystick Keyboard.

Tip: Several commands require a camera's Logical ID. For more information, see *Setting a Device's Identity* on page 31.

Note: Some features are only available if the site has the required license, and if you have the required user permissions.

Image Panel & Camera Commands

Command	Key Combination	Keypad Combination (Image Panel buttons)
Select an image panel Image panel # is displayed after pressing the first key.	* + <image panel #> + Enter	 + <image panel #> + 
Display a specific camera in the View A device's Logical ID is required.	/ + <logical ID> + Enter	 + <logical ID> + 
Display the next camera by camera's Logical ID: in the View	/ +	 + 
Display the previous camera by camera's Logical ID: in the View	/ -	 + 

Command	Key Combination	Keypad Combination (Image Panel buttons)
Select the next image panel	Tab	
Select the previous image panel	Shift + Tab	
Clear image panel selection	* + 0 + Enter	 + 0 + 
Remove camera from the selected image panel	Backspace	
Maximize/Restore the selected image panel	Ctrl + E	
Replay 30 seconds	Ctrl + ,	
Replay 60 seconds	Ctrl + .	
Replay 90 seconds	Ctrl + /	
Add a bookmark for selected camera For recorded video	Ctrl + B	
Start/Stop manual recording for the selected camera	R	
Activate/Mute audio for the selected camera In a Video Intercom panel, answer a call and activate bi-directional audio	A	
Broadcast audio	S Hold to speak. Release to stop broadcasting. In a Video Intercom panel, press to mute microphone. Press again to unmute.	 Hold to speak. Release to stop broadcasting.
In a Video Intercom panel, ignore or hang up a call	X	
Take a snapshot of the selected image panel	F4	

Command	Key Combination	Keypad Combination (Image Panel buttons)
Display linked POS transaction source/camera	Ctrl + I	
Enable digital output	K	
Opens the grant door access menu	U	
Trigger custom keyboard command	Ctrl + K	

View Tab Commands

Command	Key Combination	Keypad Combination (View buttons)
Select the next View	Ctrl + Tab	
Select the previous View	Ctrl + Shift + Tab	
Jump to View #_	Ctrl + 1 to 9	
Start/Stop cycle Views	Ctrl + Y	
Open a new View	Ctrl + T	
Close current View	Ctrl + W	
Open a new window	Ctrl + N	
Switch current View to display live video	Ctrl + L	
Switch current View to display recorded video	Ctrl + P	
Remove all cameras from the current View	Ctrl + Backspace	
Full screen a View/End full screen	F11	
Open a saved View	Ctrl + G + <logical ID>	 + <logical ID> + 

Command	Key Combination	Keypad Combination (View buttons)
The saved View's Logical ID: is required.		

View Layout Commands

Note: Customized View layouts are linked to their position in the Layouts list. For example, if your custom layout is placed at the top of the Layouts list, you can use the keyboard command for layout 1 to select the custom layout.

Command	Key Combination	Keypad Combination (View buttons)
Change to layout 1	Alt + 1	
Change to layout 2	Alt + 2	
Change to layout 3	Alt + 3	
Change to layout 4	Alt + 4	
Change to layout 5	Alt + 5	
Change to layout 6	Alt + 6	
Change to layout 7	Alt + 7	
Change to layout 8	Alt + 8	
Change to layout 9	Alt + 9	
Change to layout 10	Alt + 0	
Change to next layout	Alt +]	
Change to previous layout	Alt + [

Playback Commands

Command	Key Combination	Keypad Combination (Timeline buttons)
Play/Pause video playback	Spacebar	

Command	Key Combination	Keypad Combination (Timeline buttons)
Increase playback speed	Page Up	
Decrease playback speed	Page Down	
Step to next frame	Shift + →	
Step to previous frame	Shift + ←	
Go to next event	Alt + →	
Go to previous event	Alt + ←	
Go forward one second	Ctrl + →	
Go forward five seconds	Ctrl + Shift + →	
Go backward one second	Ctrl + ←	
Go backward five seconds	Ctrl + Shift + ←	
Zoom in on the Timeline	Ctrl + Alt + +	
Zoom out on the Timeline	Ctrl + Alt + -	
Scroll forward on the Timeline	Ctrl + Alt + →	
Scroll backward on the Timeline	Ctrl + Alt + ←	
Move the Timeline marker forward		
Move the Timeline marker backward		
Go to the start of the Timeline	Ctrl + Alt + Home	
Go to the end of the Timeline	Ctrl + Alt + End	
Center the Timeline on the time	Ctrl + C	

Command	Key Combination	Keypad Combination (Timeline buttons)
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marker		
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PTZ Commands (Digital and Mechanical)

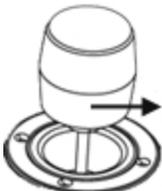
Command	Key Combination	Keypad Combination (PTZ buttons)
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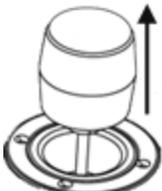
Toggle PTZ controls	Ctrl + D	
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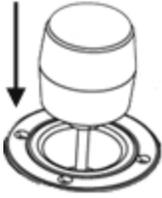
Zoom in	+	
---------	---	---

Zoom out	-	
----------	---	--

Pan left	←	
----------	---	---

Pan right	→	
-----------	---	---

Tilt up	↑	
---------	---	---

Command	Key Combination	Keypad Combination (PTZ buttons)
Tilt down	↓	
Open iris	Home	
Close iris	End	
Focus near	Insert	
Focus far	Delete	
PTZ menu left	←	
PTZ menu right	→	
PTZ menu up	↑	
PTZ menu down	↓	
Activate preset	Q + <Preset #>	 + <Preset #> + 
Run pattern		 + <Pattern #> + 
Start auxiliary	W + <Aux #>	 + <Aux #> + 
Stop auxiliary	E + <Aux #>	 + <Aux #> + 

Updating the Help Files

The help files for the Avigilon Control Center Client software and Virtual Matrix software are stored with the Avigilon Control Center Server application.

If one of these components is updated before the others, the help files may be out of date or describe features that are not currently supported by your system.

- If the help files describe a new feature that is not currently supported by your copy of the software, upgrade to the latest version of the software.
- If the help files are out of date, download the latest help files from the Avigilon website: avigilon.com. Once downloaded, run the help installer on the server.

The help file installers are divided into the following regional language packs:

- Americas
 - English
 - French
 - Spanish
- Asia
 - Japanese
- Western Europe
 - Dutch
 - French
 - German
 - Italian
 - Spanish
- Middle East
 - Arabic

Anonymous Data Collection

To improve our products and features, Avigilon collects anonymous usage data from your ACC site if it is connected to the internet. No personal information is collected. For more information, see our [Privacy Statement](#).

To opt out:

1. In the New Task menu , click **Site Setup**.
2. Select a site, then click .
3. Clear the **Send anonymous usage data:** check box.
4. Click **OK**.

Reporting Bugs

If an error occurs in the ACC software, you can contact Avigilon Technical Support at support@avigilon.com or +1.888.281.5182 option 1.

To help diagnose your problem, the Avigilon Technical Support team may ask you to provide a System Bug Report. The System Bug Report is a zip file generated by the Avigilon Control Center Client software that contains the system log and error reports for each of the servers that you can access.

To generate a System Bug Report:

1. Select  > **System Bug Report....**
2. When the Download System Bug Report dialog box appears, click **Download**.
3. In the Save As dialog box, name the file and click **Save**.
4. Once the System Bug Report has downloaded successfully, click **Close**.