



User Guide

Avigilon™ Camera Configuration Tool

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Introduction

The Avigilon Camera Configuration Tool allows you to configure all Avigilon cameras that are discovered on your network. You can apply common settings to multiple cameras at the same time, or adjust individual cameras to fit your site requirements.

To use this tool, make sure the following requirements are met:

- All the cameras you are configuring have been installed and are physically connected to the network.
- The Camera Configuration Tool is installed on a computer that has access to the same network as the cameras.
- You know the password for all the cameras.

Logging in to Cameras

By default, all the Avigilon cameras on your network are auto-discovered by the Camera Configuration Tool. The discovered cameras are connected to your immediate subnet or subnets configured for multicast messages.

Before you can edit the cameras in the system, you must first log in to the cameras.

1. When you launch the Camera Configuration Tool, you are immediately prompted to login to all discovered devices.
 - In the **User Name** and **Password** fields, enter the camera credentials. The tool assumes that all connected devices are using the same credentials.
 - If the cameras are newly installed, select the **Use the factory default credentials if the above credentials fail.** check box. The tool will automatically use the default Avigilon login credentials on all the cameras.
2. Click **Connect to Devices**.

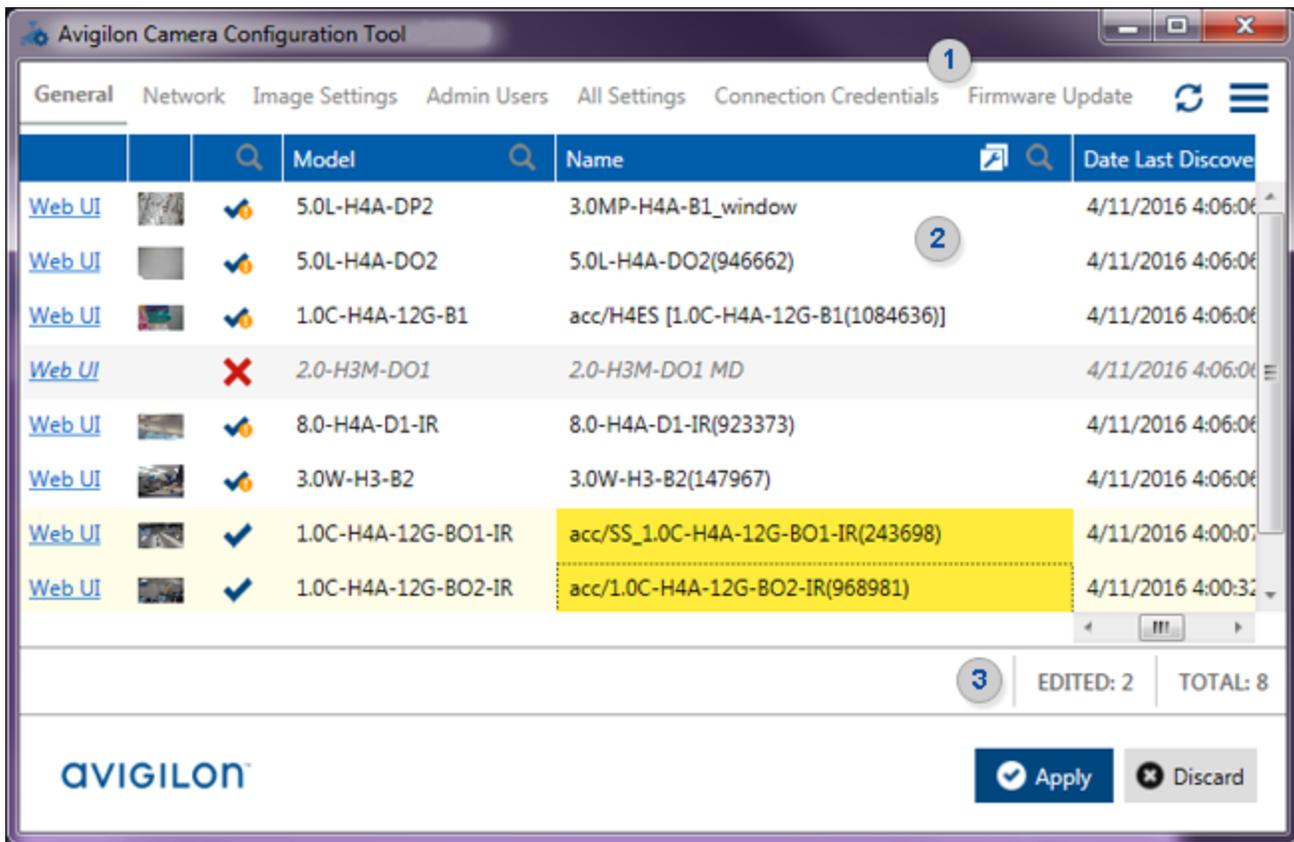
You are logged into the discovered cameras using the selected credentials.

If the tool failed to log in to some cameras, select the **Connection Credentials** tab and manually enter the correct credentials for those cameras. For more information, see *Changing the Connection Credentials* on page 5.

If you notice that one or more cameras that you want to configure are missing from the list, you can manually search and add the cameras to the list. For more information, see *Finding Cameras* on page 3.

Navigating the Camera Configuration Tool

After you login to all the cameras, the application window presents you with a list of all the cameras that were automatically detected in the system.



1. Menu bar — the camera settings tabs are displayed on the left, and the additional task menu is provided on the right.

The settings tabs provide you with a filtered list of the settings that can be configured for each camera. For more information, see *Setting Tabs* on page 13.

The additional task menu () provides you with access to advanced tasks, like the ability to find cameras that are not auto-discovered, and to import and export the displayed settings.

2. Camera list — the list of discovered cameras and their related settings.

Each row represents one camera, and each column represents a setting or information about the camera. The first 5 columns are available on every tab.

- Web UI — a direct link to the camera's full web browser interface for advanced configuration.
- Live video — a low quality live stream from the camera to help you identify where the camera is installed.
- Camera status — identifies if the camera is online and if you were able to successfully log in to the camera.
- Model** — the specific camera model.
- Name** — the name of the camera. By default, the camera name is the same as its model number.

3. Implementation area — the area at the bottom-right corner of the application window. This displays the total number of discovered cameras, and the number of cameras with pending setting changes. Changes are not implemented until you click **Apply**.

Finding Cameras

If a camera is not auto-discovered by the Camera Configuration Tool, it may be on a different subnet that is not configured to allow multicast messaging. You can manually discover cameras and add it to the tool for configuration.

1. In the top-right corner, select  > **Add Devices by IP**.

The Add Devices by IP dialog is displayed.

2. To find one camera:
 - In the dialog, enter the IP address of the camera in the **Start IP Address** field. Leave the End IP Address (Optional) field empty.
3. To find multiple cameras:
 - In the dialog, enter the IP address range. Enter the first IP address in the **Start IP Address** field, and the last IP address in the **End IP Address (Optional)** field.

The Number of IP Addresses area displays the total number of IP addresses included in the IP range. The tool will search for no more than 65,536 addresses at a time.

4. Enter the **User Name** and **Password** for the cameras.
5. Click **Add Devices**.

The tool searches through all the addresses in the IP address range, and does not stop until all the IP addresses have been checked or you click **Cancel**. The search occurs in the background so you can continue to use the tool during the search. If a camera is discovered, it is automatically added to the camera list.

Tip: New cameras may not be displayed if the camera list is filtered. For more information, see *Filtering Cameras* on page 6.

Sending a Discovery Broadcast

If you are in the process of configuring a large system, there may be new cameras added to the network over an extended period of time. The Camera Configuration Tool sends out a discovery broadcast every minute, but you can force the software to send a discovery broadcast as well.

The discovery broadcast looks for new cameras that are connected to the network. Each time it discovers a new camera, it is added to the camera list.

- In the top-right corner, click .

Tip: New cameras may not be displayed if the camera list is filtered. For more information, see *Filtering Cameras* on page 6.

Changing the Connection Credentials

If the Camera Configuration Tool failed to login to a camera, the camera displays this status: . This may occur because the camera has a unique username or password.

To change the credentials used to access the camera, complete the following steps:

1. Select the **Connection Credentials** tab.
2. Click  in the camera status column.
3. In the following dialog, select the  check box.
4. Double-click the **User Name** or **Password** field to enter different camera credentials.

The settings you changed are highlighted in yellow.

5. In the bottom-right corner, click **Apply**.

The tool attempts to login to the cameras using the new credentials that you entered. As the new credentials are applied, the camera status updates to show the cameras you now have access to.

For more information about the different camera statuses, see *Camera Status* on page 13

Editing Cameras

In the Camera Configuration Tool, you can edit all the cameras that you have successfully logged into.

Move between different tabs to see and edit the categorized camera settings. For more information, see *Setting Tabs* on page 13.

You can only edit the cameras that are displayed. To edit specific cameras, you can filter the camera list. For more information, see *Filtering Cameras* below.

Tip: As you edit the camera settings, you can disable camera filters but you cannot add new filters until after the setting changes have been either applied or discarded.

You can edit any column that displays .

To...	Do this...
Edit the setting for one camera	<ul style="list-style-type: none"> If it is a setting with defined options, select the preferred option. If it is a setting with user defined values, double-click the camera setting then enter the new setting.
Edit the setting for multiple cameras	<ol style="list-style-type: none"> In the column heading, click . In the following dialog, enter the new setting. <p>The same setting is applied to all the cameras in the camera list.</p>

NOTE: Changes made to the HD Multisensor dome camera is automatically applied to all camera heads.

The settings you changed are highlighted in yellow. The changes are not applied to the cameras until you click **Apply**. If you click **Discard**, none of your changes are applied to the camera.

After you click **Apply**, the settings are validated by the camera.

If the camera rejects any setting, the camera row is highlighted in red and the rejected setting is highlighted in yellow. In the bottom-right implementation area, click the **FAILED: (0)** status to filter the camera list to only display cameras with rejected settings.

Filtering Cameras

Depending on the size of your site, you may need to edit over 100 cameras. To help you focus on the cameras that need your attention, you can filter or sort the listed cameras.

To...	Do this...
Filter the cameras that are displayed. Use the filter to only show the cameras that you want to edit. Bulk changes are only applied to the cameras that are displayed.	<ol style="list-style-type: none"> At the top of a column, click . In the following dialog, select or enter your filter values. <p>A list of the active filters is displayed at the bottom of the page.</p>
Sort the cameras.	<ul style="list-style-type: none"> Click the column name to sort the column in

To...	Do this...
	<p>ascending alphanumeric order.</p> <ul style="list-style-type: none"> Click the same column again to sort the column in descending order. <p>You can sort any column that is displayed.</p>
Clear a filter	<ul style="list-style-type: none"> At the bottom of the page, click X for the filter that you want to remove.

Assigning IP Addresses

NOTE: Do not assign static IP addresses unless you are highly familiar with IP network addressing. The Camera Configuration Tool is not designed to calculate or validate IP address ranges, subnet masks, default gateways or other IP parameters.

Assigning Static IP Addresses

If you need to assign static IP addresses to the cameras in your system, you can do so from the Network tab. This tab allows you to apply an IP address range to the listed cameras, or apply a specific IP address to a camera.

Tip: Only assign IP addresses from subnets that you can access, or you will lose access to the cameras after the new IP addresses have been applied. You may be able to recover the camera by assigning a new IP address by the camera's MAC address. For more information, see *Assigning an IP by MAC Address* on the facing page

- Select the **Network** tab.
- To assign a static IP address range to the listed cameras:
 - Filter the camera list to only display the cameras you want to change.
 - At the top of the IP Address column, click .
 - In the following dialog, enter the first IP address in the range in the **Start IP Address** field.
 - Enter the **Subnet Mask** and **Default Gateway** for the IP addresses.
 - Click **Apply**.

DHCP is automatically disabled for the cameras, and the new network settings are highlighted in yellow.
- To assign a static IP address to one camera:
 - Locate the camera you want to change from the list.
 - Double-click the **IP Address** field and enter the static IP address.

DHCP is automatically disabled for the camera.
 - Double-click the **Subnet Mask** field and the **Default Gateway** field to enter the required values.
- At the bottom-right corner of the window, click **Apply**.

The new IP addresses are implemented on the cameras.

Assigning an IP by MAC Address

If you lose connection to a camera after it is assigned an IP address that you don't have access to, you can attempt to locate the camera by its MAC address then assign it a new IP address. Once the Camera Configuration Tool connects to the camera once, it remembers the camera's MAC address.

If you know a camera's MAC address, you can also use this method to add a new camera to the Camera Configuration Tool.

NOTE: You may need to reboot the camera to implement the new IP address.

1. If you've lost connection to a camera, locate the camera in the list and select one of its settings.

The tool automatically copies the camera's MAC address and current IP address.

2. In the top-right corner, select  > **Reset IP by MAC**.
3. In the following dialog, enter the camera's MAC address in the **MAC Address** field.

Tip: If you performed step 1, the camera's MAC address and current IP address is automatically pasted into the dialog.

4. In the **IP Address** field, enter a new IP address for the camera.
5. Click **Set Device IP Address**.

The tool attempts to discover the camera and apply the new IP address. When the tool succeeds, the camera receives the new IP address and is added to the camera list.

If the tool is unable to apply the new IP address, you may be prompted to manually reboot the camera.

Adding and Editing Camera Credentials

Changing the Administrator Password

If the camera is still using the factory default password, it is highly recommended that you enter a new password.

Cameras that are still using the default password are identified with this status: .

1. Select the **Admin Users** tab.
2. In the Admin Password column, enter a new password for one or all cameras.
3. Click **Apply**.

The camera receives the new password, and the camera status changes to .

Adding a Secondary Admin User

NOTE: If the default administrator password is lost, you may need to restore the camera to the factory default settings. Depending on how the camera is configured, this option may not be possible.

To protect the default administrator user account on the camera, you may want to create a secondary admin user.

You can choose to use the secondary account for daily operations instead of the default administrator account. Or, you can use it as a backup in the event the default administrator password is lost.

1. Select the **Admin Users** tab.
2. In the Secondary Admin User Name column, enter a new username.

If you want to use the same username for all cameras, click  then enter the username in the following dialog.

3. In the Secondary Admin Password column, enter a password for the new username.

If you want to use the same password for all cameras, click  then enter the password in the following dialog.

4. Click **Apply**.

After you click **Apply**, the password is converted into "*****" to preserve the security of the new user.

If you want to add more admin users, you will need to do so through the camera web browser interface. Be aware that the Camera Configuration Tool will only display the default administrator user and one other admin user on this tab.

Updating Firmware

The Camera Configuration Tool allows you to apply firmware updates to all the cameras in your camera list. First, you must synchronize with the Avigilon firmware repository and download a copy of all the available firmware. Once you have a copy of all the firmware, you can apply the firmware to the connected cameras.

Synchronizing Firmware

The Camera Configuration Tool has the ability to synchronize and download a copy of all the firmware that is hosted in the Avigilon firmware repository. You can choose the firmware to download, and the system will automatically delete firmware that has become obsolete.

1. In the top-right corner, select  > **Check for Firmware Updates**.

The following Check for Firmware Updates dialog lists all the firmware that is currently available in the firmware repository.

NOTE: It may take several moments for the software to connect to the firmware repository.

2. Choose the versions of firmware that you want to synchronize. By default, all boxes are checked. You can select the check box beside individual firmware versions, or select all versions by clicking the check box in the Synchronize? column header.

The Local column displays the  status if it is out of sync with the repository. If you select the check box beside the firmware file, it is downloaded when you synchronize with the repository. The Local column displays the  status when the files are in sync.

If the Remote column displays the  status, the firmware file has become obsolete and is no longer available in the Avigilon repository. The application automatically deletes the firmware file when you synchronize with the repository.

At the bottom left corner is the number of selected firmware and the total download size.

3. Click **Synchronize**.

The selected new firmware is downloaded and obsolete firmware is deleted from your local system.

Applying Camera Firmware

After you download a copy of all the firmware you need, you can apply the firmware to the connected cameras. You can apply the firmware to upgrade or downgrade the available cameras.

You can upgrade a camera if the downloaded firmware is newer than the firmware that is installed on the camera. You can choose to downgrade a camera if you are having issues with the camera performance. To downgrade the firmware, you must select an older version of the camera firmware.

1. Select the **Firmware Update** tab.
2. Filter the displayed cameras as required.
3. In the Available Firmware Version column, select the firmware you want to apply to the camera.

Click  and select Newest to have the system install the latest available firmware to the listed cameras. Otherwise, you can select a different firmware version. Be aware that the selected firmware will only be applied to the related camera models.

4. Select the check box in the **Upgrade** column or the **Downgrade** column.

If the selected firmware is newer than the version running on the camera, only the Upgrade check box is available.

If the selected firmware is older than the version running on the camera, only the Downgrade check box is available.

You must select a check box to install the firmware to the camera. The check boxes are not displayed if the camera is already running the selected firmware.

5. Click **Apply**.

The firmware is sent to the camera and installed. The camera may go offline if the upgrade requires the camera to reboot.

NOTE: Depending on the number of cameras and the network speed, the camera update process can take a long time.

Exporting and Importing Settings

Exporting Settings

You can export the cameras list into a comma separated (.csv) file. The .csv file includes all the camera's available settings.

You can edit the exported file in a spreadsheet, then import the changes back into the Camera Configuration Tool.

The exported file can also act as a backup of the current camera settings.

1. (Optional) Filter the cameras list.

Only the listed cameras are included in the export. For more information, see *Filtering Cameras* on page 6.

2. In the top-right corner, select  > **Export Device Settings**.
3. In the Save As dialog box, name and save the export file.

NOTE: If you plan to edit the export file, be careful of the following:

- *Do not* delete or re-order any column. Deleting or changing the order of the columns corrupts the file and prevents the exported file from being imported again.
- *Do not* change the camera MAC Address. The tool uses the camera MAC address to identify the cameras that are changed.
- If you decide to apply a static IP address to a camera, make sure you change the `DHCPEnabled` column setting to *False* or the new static IP address is not applied.

Importing Settings

If you have an exported settings file, you can import the file into the Camera Configuration Tool and apply the settings to the camera list.

NOTE: If you edited the settings file, make sure the columns were not re-ordered or deleted. Also, the tool uses the MAC address to identify cameras, make sure the camera MAC addresses were not changed.

1. In the top-right corner, select  > **Import Device Settings**.
2. In the Open dialog box, select and open the camera settings .csv file.

A confirmation message is displayed. The message includes the number of devices listed in the import file, and the number of devices that the Camera Configuration Tool can edit.

If the settings file contains any errors, an error message is displayed. The error message includes a list of the issues that need to be corrected in the settings file. Correct the settings file then try again.

3. Click **Edit Devices**.

The settings are imported into the Camera Configuration Tool. Modified settings are highlighted in yellow.

4. Click **Apply** to implement the changes.

Device Logs

To help you review and investigate issues, you can download a copy of the camera logs and track a live stream of the log messages.

1. Filter the camera list to only display the cameras you want to log.
2. In the top-right corner, select  > **Device Logs**.
3. In the Device Logs window, click **Write Logs to File**.
4. In the following Save As dialog box, name and save the log file.

The existing camera logs are automatically downloaded to the selected file location. The system continues to stream and record the live camera logs until you click **Stop** or close the Device Logs window. While the logs are streaming, you can continue to edit cameras in the Camera Configuration Tool.

In the Device Logs window, the left Devices list are the cameras included in the log file. On the right Logs list are the log messages in chronological order.

The log stream auto-scrolls to the latest message until you click a message in the stream. At this point, the auto-scrolling stops so you can read the message while the log stream continues. To have the application resume auto-scrolling, drag the scroll bar to the end.

You can identify what device is referenced in the log message by the Serial Number. If a camera goes offline, the camera will stop logging until it returns online - the other cameras in the Devices list will continue to stream their logs.

The log file you saved is in .txt format. You can also review the saved log in a text reader.

Each time you open the Device Logs window, the previous log is displayed. When you click Write Logs to File, the Devices list refreshes to include the latest filtered cameras and saves a new log file.

Appendix

For more information about a camera, see the camera's installation guide.

For advanced camera configuration details, see any of the following:

- *Avigilon HD H.264 Web Interface User Guide*
- *Avigilon Control Center Client User Guide*

Camera Status

The camera status column displays the following details about each camera.

-  — the tool successfully logged into the camera.
-  — the tool successfully logged into the camera using the factory default credentials. It is recommended that you change the camera password. For more information, see *Changing the Administrator Password* on page 8.
-  — the tool is trying to log into the camera.
-  — the tool failed to log into the camera. Change the login credentials on the **Connection Credentials** tab. For more information, see *Changing the Connection Credentials* on page 5.
-  — the tool is no longer able to communicate with the camera. This may appear if the camera is offline or if there has been an error retrieving the camera settings.

Setting Tabs

The tabs in the menu bar provide you with a filtered list of settings and information about each camera.

The first 5 columns are the same in every tab:

1. **Web UI** — a direct link to the camera's full web browser interface for advanced configuration.
2. **Live video** — a low quality live stream from the camera to help you identify where the camera is installed.
3. **Camera status** — identifies if the camera is online and if you were able to successfully log in to the camera.
4. **Model** — the specific camera model.
5. **Name** — the name of the camera. By default, the camera name is the same as its model number.

The tabs show the following details:

NOTE: Some settings are not displayed if they are not supported by the camera.

Tab	Settings
General	<ul style="list-style-type: none">• Location• Disable Camera Status LEDs• Date First Discovered

Tab	Settings
	<ul style="list-style-type: none"> • Date Last Discovered • Serial Number • Manufacturer • Firmware Version • Date — the date and time at the camera
Network	<ul style="list-style-type: none"> • Enable DHCP • IP Address • Subnet Mask • Default Gateway • Hostname • MAC Address
Image Settings	<ul style="list-style-type: none"> • Flicker Control • Enable WDR • Image Rate • Quality • Max Bitrate • Resolution • Keyframe Interval • Camera Heads
Admin Users	<ul style="list-style-type: none"> • Admin User Name • Admin Password • Secondary Admin User Name • Secondary Admin Password
All Settings	All available camera settings. Scroll right to see any settings that may be hidden.
Connection Credentials	<ul style="list-style-type: none"> • User Name • Password
Firmware Update	<ul style="list-style-type: none"> • Firmware Version • Available Firmware Version • Upgrade • Downgrade

