



User Guide

Avigilon™ Network Video Recorder Workstation

HD-NVRWS3-8TB

Copyright

© 2017, Avigilon Corporation. All rights reserved. AVIGILON, the AVIGILON logo, AVIGILON CONTROL CENTER, ACC and TRUSTED SECURITY SOLUTIONS are trademarks of Avigilon Corporation. Other names or logos mentioned herein may be the trademarks of their respective owners. The absence of the symbols ™ and ® in proximity to each trademark in this document or at all is not a disclaimer of ownership of the related trademark. Avigilon Corporation protects its innovations with patents issued in the United States of America and other jurisdictions worldwide (see avigilon.com/patents). Unless stated explicitly and in writing, no license is granted with respect to any copyright, industrial design, trademark, patent or other intellectual property rights of Avigilon Corporation or its licensors.

The contents of this document and the specifications of the products discussed herein are subject to change without notice. Avigilon Corporation reserves the right to make any such changes without notice. Neither Avigilon Corporation nor any of its affiliated companies: (1) guarantees the completeness or accuracy of the information contained in this document; or (2) is responsible for your use of, or reliance on, the information. Avigilon Corporation shall not be responsible for any losses or damages (including consequential damages) caused by reliance on the information presented herein.

Avigilon Corporation
avigilon.com

PDF-NVRWS3-A

Revision: 1 - EN

20171013

Table of Contents

Introduction	1
Overview	1
Front View	1
Back View	2
Installation	4
Package Contents	4
Connecting Cables	4
Configuring Windows 10	4
Activate the Avigilon Control Center Software	5
Licensing the Avigilon Control Center (ACC) 6 Software	5
Automatic License Activation	6
Manual License Activation	6
Modifying Licenses	6
Downgrading to the Avigilon Control Center (ACC) 5 Software	6
Networking	7
Configuring the Avigilon Control Center Software	8
Starting Up and Shutting Down the Avigilon Control Center Client Software	8
Starting Up the Client Software	8
Shutting Down the Client Software	8
Logging Into and Out of a Site	8
Logging In	9
Logging Out	9
Changing the Administrator Password	9
Connecting Cameras to the Avigilon Control Center Software	10
Setting the Recording Schedule	11
Creating a Recording Template	11
Setting Up a Weekly Recording Schedule	11
Setting Data Aging	12
Adding Users and Groups	13
Adding Groups	14
Adding Users	15
Advanced Settings	15
LED Indicators	17
Power Status Indicator	17
Hard Drive Activity Indicator	17

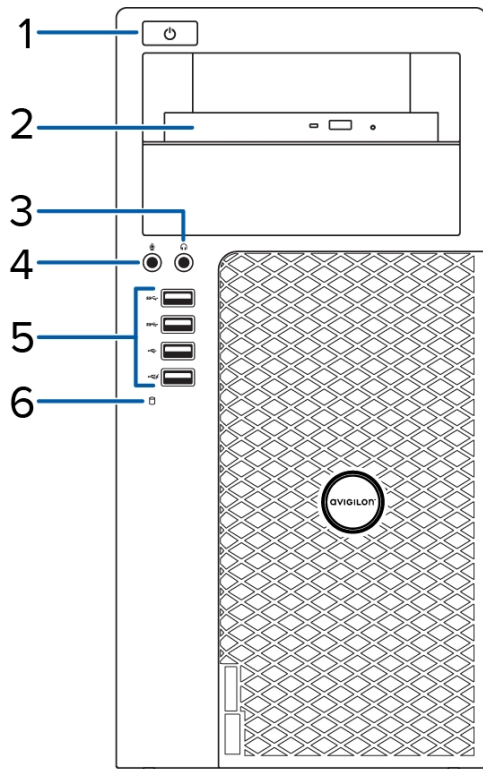
Specifications	18
Limited Warranty and Technical Support	19

Introduction

The Avigilon™ Network Video Recorder (NVR) Workstation is preloaded with Avigilon Control Center™ (ACC) software and is configured for exceptional performance and reliability. The NVR Workstation can be easily integrated into any existing Avigilon surveillance system, or act as the base of a new site.

Overview

Front View



1. **Power button**

Controls the power supply to the recorder. For more information, see *Power Status Indicator* on page 17.

2. **Optical drive**

Accepts a CD or DVD.

3. **Headphone connector**

Accepts a line-out audio connector.

4. **Microphone connector**

Accepts a line-in audio connector.

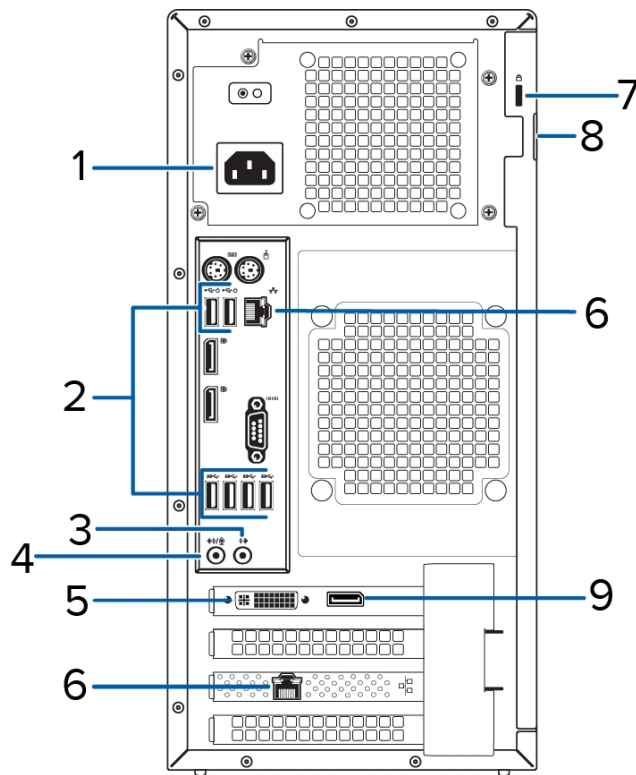
5. **USB connectors**

Accepts USB connections to external devices.

6. Hard drive activity indicator

Provides information about hard-drive activity. For more information, see *Hard Drive Activity Indicator* on page 17.

Back View



1. Power supply connector

Accepts power supply connection.

2. USB connectors

Accepts USB connections to external devices.

3. Headphone connector

Accepts a line-out audio connector.

4. Microphone connector

Accepts a line-in audio connector.

5. DVI connector

Accepts a DVI-D connection to a display monitor.

6. 1 Gigabit Ethernet ports

Accepts an Ethernet connection to the network.

7. Security cable connector

Accepts a security cable to prevent theft.

8. **Padlock ring**

Allows a padlock to secure the computer cover to the chasis.

9. **DisplayPort connector**

Accepts a DisplayPort (DP) connection to a display monitor.

Installation

Package Contents

Ensure the package contains the following:

- Avigilon NVR Workstation
 - Power cable
 - Keyboard and mouse
 - 1 DP to DVI adapter
 - 2 DVI to HDMI adapters
 - Recovery USB — contains a copy of the Avigilon Control Center Client software and the Windows recovery software.

Connecting Cables

Refer to the diagrams in the Overview section for the location of the different connectors. Make any of the following connections as required:

1. Connect the keyboard and mouse to the USB connectors on the recorder.
2. Connect the monitors to the dedicated graphics processor on the recorder using one of the following configurations:

Monitor ports	Connections
DP	<ul style="list-style-type: none">• Connect monitor 1 directly to DP• Connect monitor 2 to monitor 1 in a daisy-chain configuration
DVI	<ul style="list-style-type: none">• Connect monitor 1 directly to DVI port• Connect monitor 2 to DP using DP to DVI adapter
HDMI	<ul style="list-style-type: none">• Connect monitor 1 to DVI port using DVI to HDMI adapter• Connect monitor 2 to DP using both DP to DVI and DVI to HDMI adapters

3. Connect the recorder to your network using an Ethernet network cable.
4. Connect the power cable to the power supply at the back of the recorder.
5. It is recommended to connect a security cable and use a padlock to prevent theft of the recorder.
6. Press the power button on the front of the recorder.

The NVR Workstation turns on and loads the Windows operating system.

Configuring Windows 10

After the workstation starts, you will need to configure the Windows operating system for the first time.

1. On the first screen, the MICROSOFT SOFTWARE LICENSE TERMS is displayed. Review the terms and click **Accept**.
2. Select **Join Local Active Directory**.
Note: This prompt will only appear if an Active Directory is present on the network, see the *Windows Help and Support* files for more information.
3. Enter a user name for accessing the Windows software.
4. Set a password for the user name you entered on the previous screen. When you are ready, click **Next**.
5. The Avigilon End User License Agreement is displayed, Review the terms and click **Accept**.

Proceed to activate the license for the Avigilon Control Center software on your .

Activate the Avigilon Control Center Software

Downgrading to the ACC™ 5 Software:




The NVR Workstation is pre-installed with Avigilon Control Center (ACC) 6 software. You can use the ACC 6 software or the ACC 5 software. **Do not activate the ACC 6 software if you plan to use the ACC 5 software, See *Downgrading to the Avigilon Control Center (ACC) 5 Software* on the next page.**

Before you can configure cameras and monitor live or recorded video, you will need to activate your ACC software license. You will need to purchase a license if you don't already have one.

Other parts of the ACC system may start while you perform this procedure, but you will not be able to use any of the features until after license activation is complete.

Licensing the Avigilon Control Center (ACC) 6 Software

The first time you connect to the new appliance with the ACC Client, you must activate a license for the new ACC software. After the license is activated, you can immediately use the new licensed features.

1. Start and log in to the ACC Client. The "Select one or more sites to log in" prompt is displayed. If you are connected only to the new recorder only one site is listed in the navigation panel to the left. The default name is **HDVA**.
2. Double-click the new recorder name to log in. There is no user name or password set on the recorder.
3. At the top-left corner of the application window, click  to open the New Task menu, then click .
4. In the site Setup tab, click .
5. In the License Management dialog box, click **Add License...**
6. In the following dialog box, select one of the following tabs:
 - If you have internet access, select the **Automatic** tab. Go to *Automatic License Activation* on the next page.
 - If you do not have internet access, or you plan to keep the system in a private intranet, select the **Manual** tab. Go to *Manual License Activation* on the next page.

Automatic License Activation

On the **Automatic** tab:

1. At Enter Product Keys enter the license key.
2. Activate and License Site.

Manual License Activation

On the **Manual** tab:

1. At Enter Product Keys Step 1:, enter the license key.
2. At Generate Activation File click **Save File...**
3. From the Save As window, choose where you want to save the .key file that is generated by the system. You can rename the file as required.
4. Click **Save**.
5. Copy the .key file to a computer with internet access.
6. Open a web browser and go to <http://activate.avigilon.com>.
7. Browse to the location of the .key file then click **Upload**. The generated license file (.lic) should download automatically. If it does not, allow the download to occur when you are prompted.
8. Copy the downloaded .lic file to a location that would be accessible to the ACC Client software.
9. Complete the product registration page to receive product updates from Avigilon, then click **Register**.
10. Return to the ACC Client and at Apply License File click **Apply....**
11. Locate the downloaded .lic file and click **Open**.
12. When the Confirm Licenses dialog box is displayed, click **OK**.

Modifying Licenses

You can also use the the License Management dialog box to add, remove, deactivate, and reactivate licenses for the ACC 6 software. For more information, consult the online Help files.

Downgrading to the Avigilon Control Center (ACC) 5 Software

1. Navigate to the **Apps & Features** section of Windows Settings and uninstall the ACC 6 software.
2. Navigate to the D: drive and delete the following directories:
D:\AvigilonConfig
D:\AvigilonData
3. Navigate to **C:\Avigilon\Control Center Installation Files\5.10**.
4. Install each application by double-clicking the installers in the following order:
ACC 5 Server
ACC 5 Client
ACC 5 Player
ACC 5 Gateway
5. To activate your license, refer to the **Avigilon Control Center Server User Guide** for the ACC 5 software, available from <http://avigilon.com>.

Networking

By default, the NVR Workstation acquires an IP address on the network through DHCP. If you need to set up the recorder to use a static IP address or any specific network configuration, see the *Windows Help and Support* files for more information.

Configuring the Avigilon Control Center Software

After you set up and license the NVR Workstation, it is recommended that you complete the following steps to configure the ACC software.



For more information about any of the following procedures, see the help files provided with the Avigilon Control Center Client software.

Starting Up and Shutting Down the Avigilon Control Center Client Software

The ACC Client software should start automatically when Windows starts. Refer to the following steps if it doesn't.

Starting Up the Client Software


Perform one of the following:

- In the Start menu, select **All Programs** or **All Apps** > **Avigilon** > **Avigilon Control Center Client**.
- Double-click  or  desktop shortcut icon.

When you are prompted, log in to your site. You can only access cameras and video after you log in.

Once the application has started, it will automatically display a list of all the sites that are connected to the same network. You will be prompted to log in to all sites.

Shutting Down the Client Software

1. In the top-right corner of the Client software, select  > **Exit**.
2. When the confirmation dialog box appears, click **Yes**.

Logging Into and Out of a Site




After you start the ACC Client software, you are immediately asked to log in to a site. By default, the NVR Workstation is automatically added to the system as a server within a site of the same name.

The default username is *administrator* with no password.

Logging In

1. Open the Site Login tab. The Site Login tab is automatically displayed if you are launching the Client software for the first time.

To manually access the Site Login tab, do one of the following:

- From the top-right corner of the window, select  > **Log In...**
- From the top-left corner of the application window, click  to open the New Task menu, then click .

2. On the left side of the Site Login tab, select one or more sites.

If the site you want to log into is not shown, click **Find Site...** to discover the site.

3. Enter your username and password for the selected sites.
4. Click **Log In**.


You are logged into the selected sites.

If you want to be notified when new or disconnected sites come online, select the **Notify me when additional sites become available** check box.

If you want to see the login page each time you launch the Client software, select the **Show this tab on startup** check box. If you prefer not to login each time, you can disable this option and configure automatic login from the Client Settings dialog box.

Logging Out

You can log out of one or all sites at any time.



To...	Do this...
Log out of one or select sites	<ul style="list-style-type: none">• In the System Explorer, select one or more sites then right-click and select Log Out.
Log out of all sites	<ol style="list-style-type: none">1. In the top-right corner of the Client, select  > Log Out.2. In the confirmation dialog box, click Yes.

Changing the Administrator Password

After you log in to the ACC software for the first time, it is recommended that you change the default administrator password.

1. After you login, the Change Password dialog is displayed.
2. Enter a new password and then confirm the new password.

The password must meet the minimum strength requirements.

-  — password meets the strength requirements.
-  — password does not meet the strength requirements, enter a new password.

The password strength is defined by how easy it is for an unauthorized user to guess. If your password does not meet the strength requirements, try entering a series of words that is easy for you to remember but difficult for others to guess.

3. Click **OK**.

Tip: If you forget the default administrator password, resetting the password requires restoring the factory default settings on every server in the site. To avoid this issue, it is highly recommended that you create at least one other administrator level user as a backup.

Connecting Cameras to the Avigilon Control Center Software

After all the cameras in your system have been physically connected to the network, you need to connect the cameras to the ACC software so that video can be recorded and indexed for search.



1. In the site Setup tab, click .

The Connect/Disconnect Devices... tab is displayed.

2. In the Discovered Devices area, select one or more devices then click **Connect....**

Tip: You can also drag the device to a server on the Connected Devices list.

3. In the Connect Device dialog box, select the server you want the device to connect to.




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

4. If you are connecting a third-party device, you may choose to connect the device by its native driver. In the **Device Type:** drop down list, select the device's brand name. If there is only one option in the drop down list, the system only supports one type of driver from the device.
5. If the camera supports a secure connection, the **Device Control:** drop down list is displayed. Select one of the following options:

NOTE: The setting may not be displayed if the camera only supports one of the options.

- **Secure** — The system will protect and secure the camera's configuration and login details. This option is selected by default.
- **Unsecure** — The camera's configuration and login details will not be secured and may be accessible to users with unauthorized access.

Cameras with a secure connection are identified with the  icon in the Status column.

6. If it is not displayed, click  to display the Site View Editor and choose where the device appears in the System Explorer.
 - In the  site directory, drag devices up and down the right pane to set where it is displayed.
 - If your site includes  folders, select a location for the device in the left pane. The right pane updates to show what is stored in that directory.
 - If you are connecting multiple devices at the same time, the selected devices must be assigned to the same location.

Tip: If the site you want is not listed, you may need to connect the device to a different server. Make sure the selected server is connected to the site you want.

7. Click **OK**.
8. If the device is password protected, the Device Authentication dialog box appears. Enter the device's username and password, then click **OK**.

Setting the Recording Schedule

Once all the cameras have been connected, you can set when you want each camera to record video.


By default, all connected cameras are set to record when events are detected by the system. You can skip this procedure if you prefer to keep the default settings.

Before you can assign a recording schedule, you must create a template. The template allows you to assign the same schedule to multiple cameras.

Creating a Recording Template

The events that can be selected for the template depend on the licensed features in your system.



1. In the server Setup tab, click . The Recording Schedule dialog box is displayed.
2. Click **Add Template** below the Templates: list.
3. Enter a name for the **New Template**.
4. Click the **Set Area** button, then click or drag the cursor across the **Recording Mode:** timeline to set the types of events that the cameras will record throughout the day. Individual rectangles on the Recording Mode: timeline are colored when they have been selected.


The **Recording Mode:** options include:

- **Continuous** — record video constantly.
 - **Motion** — only record video when motion is detected.
5. To disable recording in parts of the template, click the **Clear Area** button, then click or drag the cursor across the timeline to remove the set recording areas.
 6. 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, then set the time between each reference image.

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.



1. In the server Setup tab, click . The Recording Schedule dialog box is displayed.
2. Select a template from the Templates: list.
3. In the Default Week area, click the days of the week this template applies to for each camera.

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

Figure 1: The Recording Schedule dialog box: Default Week

4. Click **OK**.

Setting Data Aging

Data aging defines how long recorded video is stored and the quality of the video as it ages over time. In the ACC software, the recorded image rate is slowly reduced so that recorded video can be viewed over a longer period of time while still making room for new recordings. You can adjust how long the full image rate video is kept, so that you have the best quality video when you need it.

The amount of data aging that is available depends on the camera you have connected to your system:

- For JPEG2000 or JPEG compression cameras, data aging is available at three rates:
 - **High Bandwidth** keeps recordings at their original quality.
 - **Half Image Rate** discards half of the recorded data to make room for new recordings.
 - **Quarter Image Rate** keeps 1/4 of the original recorded data so that you can still see older video.
- For H.264 cameras that support data aging, data aging is available at two rates:
 - **High Bandwidth** keeps the original high quality video and the secondary stream of low resolution video.
 - **Low Bandwidth** only keeps the secondary stream of low resolution video.

NOTE: The data aging can only occur when the secondary stream is enabled.

- For 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 dialog is 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 amortized data rate. Since the system can only provide an estimate of the data rate for the full retention period, the actual retention time can vary from the Max. Record Time setting by up to 30 minutes.


NOTE: The time shown in the Total Record Time column is an estimate only.



1. In the server Setup tab, click .

The Recording and Bandwidth dialog box is displayed.

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.

2. In the Data Aging column, move the sliders to adjust the amount of time video 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.
3. 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 the Total Record Time column is significantly shorter than what is set in the Max. Record Time column, the camera's actual recording time will be closer to the Total Record Time estimate.

4. Click **OK**.

Adding Users and Groups

If there will be other people using the system, you may want to add them as separate users rather than giving them access through the default administrator account.



Before you can add individual users, you will need to add permission groups that define what users have access to. By default, the system has the following groups:

- **Administrators** — has access to everything in the system.
- **Power Users** — has access to most features in the system except for the ability to import and export settings.
- **Restricted Users** — has access to live video only and can control audio and digital outputs.
- **Standard Users** — has access to live and recorded video, but cannot make any Setup changes.

It is highly recommended that the Administrators group includes at least two users. In the event one administrator user forgets the default administrator password, the second administrator user can be used to reset the password. If you do not have a second administrator user, you may need to completely reset the system.

Adding Groups



1. In the site Setup tab, click .
2. In the following dialog box, select the Groups tab and click **Add Group**.
3. In the pop-up dialog box, select an existing group to use as a template for your new group, then click **OK**.
4. In the Edit Group dialog box, complete the following:
 - a. Give the new group a name.
 - b. Select a rank for the group from the **Rank:** drop down list. To edit or view the entire Corporate Hierarchy, click .
 - c. Move the **Min Password Strength:** slider to define how strong the password used by each user in the group must be.


The password strength is defined by an algorithm that anticipates how easy a password is to guess. There is no defined character minimum, but the stronger the setting, the harder it should be for an unauthorized user to crack the password.

Tip: If users are expected to change their passwords frequently, you may want to select a weaker setting to ensure users do not have difficulty choosing new passwords.
 - d. Select the required **Group Privileges:** and **Access Rights:** for the group. Clear the check box of any feature or device that you do not want the group to have access to.
5. Click **Edit Groups** to enable the Dual Authorization feature.

When you enable Dual Authorization, users in this group cannot review recorded video without permission from a user in the authorizing group.

- a. In the following dialog box, select the groups that can grant authorization to users in this group.
 - b. To disable the feature, click the toggle at the top of the dialog box.
 - c. Click **OK**.
6. Select the Members tab to add users to the group.


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

- a. Click .
 - b. Select the users that should be part of this new group. Only users that have been added to the site are displayed.

Tip: Enter the name of a user in the **Search...** field to locate specific users.
 - c. Click **Add**. The users are added to the Members list.
7. Click **OK** to save the new group.

Adding Users





1. In the site Setup tab, click .
2. In the Users tab, click **Add User**.
3. When the Add/Edit User dialog box appears, complete the User Information area.
4. If you don't want this user to be active yet, select the **Disable user** check box. Disabled users are in the system but cannot access the site.
5. 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.
6. Select the **Member Of** tab to assign the user to a group.
 - a. Select the check box beside each access group the user belongs to.

The other columns display the permissions that are included in the selected groups.
 - b. Return to the **General** tab.
7. In the Password area, complete the following fields:

- **Password:** — enter a password for the user.
- **Confirm Password:** — re-enter the password.
- **Strength:** — indicates the strength of the password. The strength is defined by the group the user is assigned to. If the user is a member of more than one group, the user must meet the strongest password requirement.

The password must meet the minimum strength requirements.

-  — password meets the strength requirements.
-  — password does not meet the strength requirements, enter a new password.

The password strength is defined by how easy it is for an unauthorized user to guess. If your password does not meet the strength requirements, 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** — select this check box if the user must replace the password after the first login.
- **Password Expiry (Days):** — specify the number of days before the password must be changed.
- **Password never expires** — select this check box if the password never needs to be changed.

8. Click **OK**. The user is added to the site.

Repeat this procedure to add all the users that are required.

Advanced Settings

After you've set up all the required settings in the ACC Client software, the system can start running.

The following list provides some advanced settings you can use to further customize your system. See the application Help files for details about how to configure each setting.

- Adjust camera settings
 - If camera video looks slightly blurry or unclear, you can adjust the camera's Image and Display settings.
 - If you want the camera to record at a different image rate, you can adjust the camera's Compression and Image Rate settings.
 - To reduce the amount of ambient motion detection for a specific camera, you can adjust the Motion Detection settings.
 - To maintain the privacy of certain areas, you can set Privacy Zones in the camera's field of view so that private spaces are never recorded.
- Corporate Hierarchy
 - If you are setting up an enterprise system that includes large, physically dispersed sites, you can use the Corporate Hierarchy feature to define system access at different levels of the organization.
- Alarms
 - Use the Alarms dialog box to create and manage alarms. Once an alarm has been created, you can monitor alarm events in the Alarms tab and in the ACC Mobile App.
- Self-Learning Video Analytics
 - If you have an Avigilon self-learning video analytics device, use the Analytic Events dialog box to configure classified object motion detection. Once configured, you can receive events, trigger alarms, define rules, and record video when specific object motion requires your attention.
- Email notifications
 - You can set up an SMTP email server to send you email notifications when system events occur.
 - If you have a Standard Edition licensed system, you can set up detailed rules to send you email notifications when specific events occur.
- Setup the Gateway
 - The ACC Gateway software allows you to access video from a remote web browser or mobile device. If the Gateway software is not set up, you cannot access video outside of your local network.
 - Install the ACC Mobile app on your mobile device so that you can remotely monitor live and recorded video.

LED Indicators

The following table describes what the LEDs on the recorder indicate. For more information on the location of the indicators, see *Overview* on page 1.

Power Status Indicator

The power button indicator on the front of the recorder functions to provide power and system state information. The following table describes what the power button LED indicates:

LED Indicator	Description
Off	Power supply is not connected or the recorder is off.
Flashing white	Power is being supplied and the recorder is in sleep state.
Flashing green	There is a known problem with the power supply unit.
Steady green	There is an unknown problem with the power supply unit.
Steady white	The power supply unit is working and the recorder is powered on.

Hard Drive Activity Indicator

The hard drive activity indicator on the front of the recorder functions to provide information on the status of the hard drive. The following table describes what the hard drive activity LED indicates:

LED Indicator	Description
Off	Hard drive is not being used.
Flashing white	Data is being read or written.

Specifications

System

Avigilon Control Center Software	Enterprise, Standard and Core
Operating System	Windows 10 Enterprise 2016 LTSB
Hard Disk Drive Configuration	1—500 GB OS HDD

Mechanical

Dimensions (H x W x D)	175 mm x 360 mm x 435 mm (6.89 in. x 14.17 in. x 17.12 in.)
Weight	9.24 kg (20.35 lbs)
Form Factor	Desktop

Electrical

Power Input	100 to 240 VAC, 50/60 Hz, auto-switching
Power Consumption	290 W (989.00 BTU/hr)
Power Supply	Single non-redundant

Environmental

Operating Temperature	5° C to 35° C (41° F to 95° F)
Storage Temperature	-40°C to 65°C (-40°F to 149°F)
Humidity	20% to 80% relative humidity (non-condensing)
Operating Vibration	0.26 GRMS
Storage Vibration	2.20 GRMS
Operating Shock	40 G
Storage Shock	105 G
Operating Altitude	-15.2 m to 3,048 m (-50 ft to 10,000 ft)
Storage Altitude	-15.2 m to 10,668 m (-50 ft to 35,000 ft)

Certifications

Certifications	UL, cUL, CE, RCM, CCC, EAC, VCCI, KC, BSMI, NRCS
Directives	RoHS, SVHC

Limited Warranty and Technical Support

Avigilon warranty terms for this product are provided at [avigilon.com/warranty](https://www.avigilon.com/warranty).

Warranty service and technical support can be obtained by contacting Avigilon Technical Support:
[avigilon.com/contact-us/](https://www.avigilon.com/contact-us/).