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User Guide

Avigilon™ HD Video Appliance Models:

VMA-AS1-8P, VMA-AS1-16P and VMA-AS1-24P

avigilon™

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Introduction

The Avigilon HD Video Appliance is the all-in-one solution for network video recording. The video appliance includes:

- A network switch to connect and power IP cameras.
- Built-in server and storage to run the Avigilon Control Center™ Server and retain recorded video content.
- Video ports to display live video and allow users to operate the Avigilon Control Center Client software directly from the appliance.

This guide describes how to configure the system after the appliance has been powered and is connected with keyboard, mouse and monitor. It is recommended that cameras not be connected to the appliance until after the appropriate network configuration has been set up.

Configuring Windows Embedded Standard 7 Software

When you start the HD Video Appliance for the first time, you will need to configure the Windows operating system that is installed on the appliance.

1. On the first screen, carefully scroll through the list and select your preferred language.

   NOTE: You will not be able to change this setting after Windows software applies your settings at the end of this procedure.
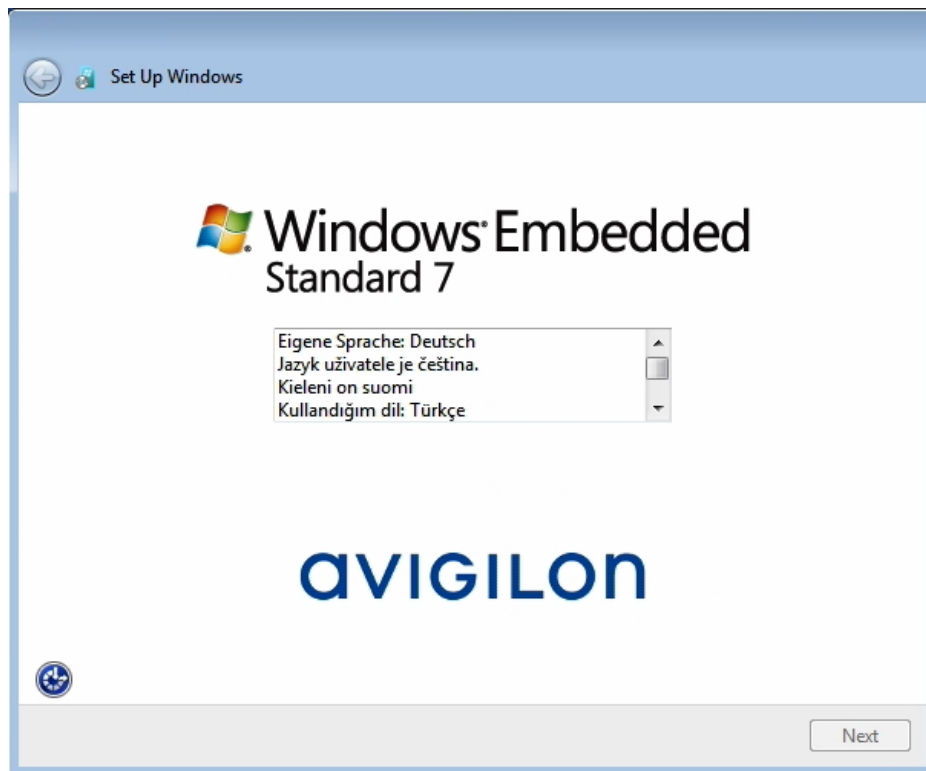
2. Click **Next**.

3. Select your locale preferences then click **Next**.

4. Enter a user name for accessing the Windows software.

5. Enter a unique computer name or use the default computer name. When you are ready, click **Next**.

6. Set a password for the user name you entered on the previous screen. When you are ready, click **Next**.

7. On the following page is the end user license agreement for the Windows operating system. Review the terms then select the **I accept the license terms** check box and click **Next**.

8. Select the correct date and time for the system then click **Next**.

9. Select the network mode for the appliance. The recommended option is **Work Network**.

Next, the Windows software restarts and applies your settings. Once restarted, you will need to license your Avigilon Control Center system.

Licensing the Avigilon Control Center (ACC)™ System

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

After the appliance restarts, the first screen you see is the Avigilon Control Center software license wizard.

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.

1. Click **License Activation**.
2. On the following screen, select one of the following:
    - **Internet Activation** – If the appliance has an internet connection, select this option to quickly license the Avigilon Control Center software.
    - **[[[Undefined variable UI_ACC.AdminPanelLicensingManualTitle]]]** – If the appliance is not currently connected to the internet or you plan to keep the system in a private intranet, select this option.

Internet Activation

1. On the [[[Undefined variable UI_ACC.AdminPanelProductKeyTitle]]] page, enter your license key. A green check mark will appear beside your license key when it is correct.
2. Click **Next**.
3. On the Product Registration page, enter your contact information to receive product updates, then click **Next**.
4. The Admin Tool connects to the Avigilon licensing server and activates the license.

   When the *Activation Succeeded* message is displayed, click **Finish**.

Manual Activation

1. Click **[[[Undefined variable UI_ACC.LicensorExportKeyButtonTitle]]]**.
2. On the Enter Product Key page, enter your license key.

   A green check mark will appear beside your license key when it is correct.
3. Click **Next**.
4. On the Select Activation File page, confirm where the activation file will be saved. Click **[...]** to navigate to a different file location.

   You can rename the activation file, but you must keep the `.key` extension.

5. Click **Next**.

   On the following page, you will see the Activation File Saved message.

6. Find the saved activation file and copy the file to a computer with internet access.

7. Open a web browser and go to **http://activate.avigilon.com**.

8. At the Avigilon License Activation web page, click **Browse** to locate your activation file, then click **Upload**.

9. The activated license file should download automatically. If not, allow the download to occur when you are prompted.

10. Complete the product registration section to receive product updates from Avigilon, then click **Register**.

11. Find the downloaded license file and copy the file to the appliance.

12. If the Activation File Saved message is still displayed in the Add License wizard, click **Next**. Otherwise skip this step.

13. Click **Step 2: Add License File**.

14. On the Import License File page, click **[...]** to locate the license file, then click **Next**.

15. When the *Activation Succeeded* message is displayed, click **Finish**.

Adding Licenses

If you choose to upgrade your existing license to a different edition, you will need to perform the licensing procedure again. In this case, you can access the Add License wizard from the Avigilon Control Center Server Admin Tool software.

1. To open the Admin Tool, perform one of the following:

   - Select **All Programs** or **All Apps** > **Avigilon** > **Avigilon Control Center Server** > **Avigilon Control Center Server Admin Tool**.

   - From the appliance desktop, double-click .

2. In the Admin Tool window, select the **Settings** tab and click **Licensing**.

3. Click **Add License**.

4. Complete either the **Internet Activation** or **[[[Undefined variable UI_ ACC.AdminPanelLicensingManualTitle]]]** procedure to add the new license to your current system.

Configuring the Network

Depending on how you intend to use the HD Video Appliance, you may choose to configure the network switch component of the appliance differently.

The three most typical network configurations are:

1. No DHCP server — the HD Video Appliance and the connected cameras will run as a self contained system without a DHCP server.

   This configuration is most likely used by a small business that may not have a network infrastructure, and prefers to use the HD Video Appliance like a traditional closed circuit surveillance system.

2. External DHCP server — the HD Video Appliance and the connected cameras will work with an existing DHCP server on the network.

   This configuration is most likely used by a small office that already has some network infrastructure that will be used with the appliance, like a router that gives the office computers internet access.

3. Internal DHCP server — the HD Video Appliance will act as the local DHCP server for the connected cameras and any other devices that may also be connected to the appliance.

   NOTE: The HD Video Appliance is intended to be used for connecting and powering IP cameras, not for general computer networking. However, if you prefer, the appliance can be configured to do so.

   This configuration is most likely used by a small business that prefers to use the appliance switch component instead of a router for connecting all network devices together. Other network devices can include voice over ip (VoIP) phones or external network drives.

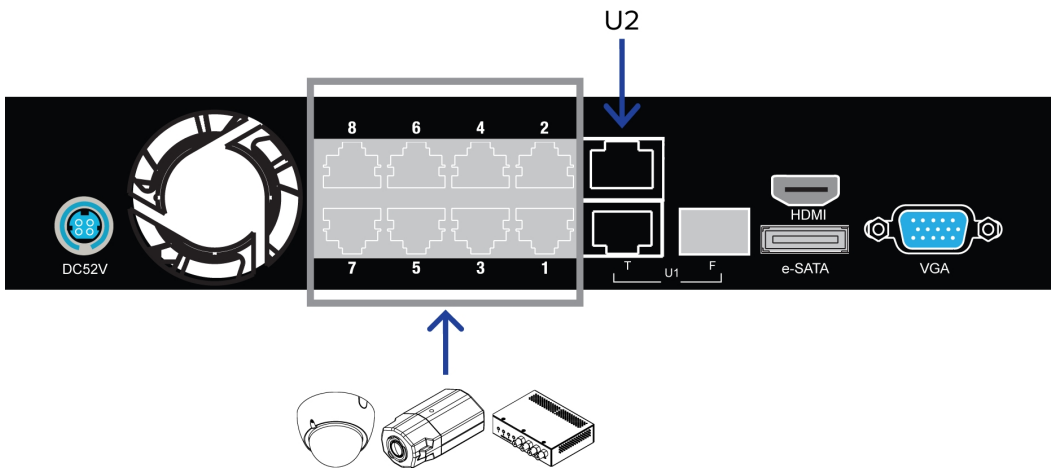Complete the procedure that will configure your preferred network:

Configuring a No DHCP Network

If you plan to connect cameras directly to the HD Video Appliance and run a self contained system, all you need to do is connect cameras directly to the numbered ports.

Figure 2: Example of no DHCP network connections on an 8 port HD Video Appliance.

Avigilon cameras are able to assign IP addresses to themselves when a DHCP server is not available through Zero Configuration Networking (Zeroconf). The Avigilon Control Center software should automatically detect all connected cameras through the 169.254.1.0/16 subnet.

If you would like to access the internet through the HD Video Appliance, you can add an internet connection to the **U2** port. The U2 port is separate from the numbered camera ports, so it will not interfere with video recording.

After you connect cameras to the numbered ports, you can configure the Avigilon Control Center system. See *Configuring the Avigilon Control Center Software* on page 11.

Configuring an External DHCP Network

If you already have a router, or switch, to connect your other network devices, you can connect the HD Video Appliance directly to the router so that cameras can be addressed using the router's built-in DHCP service.
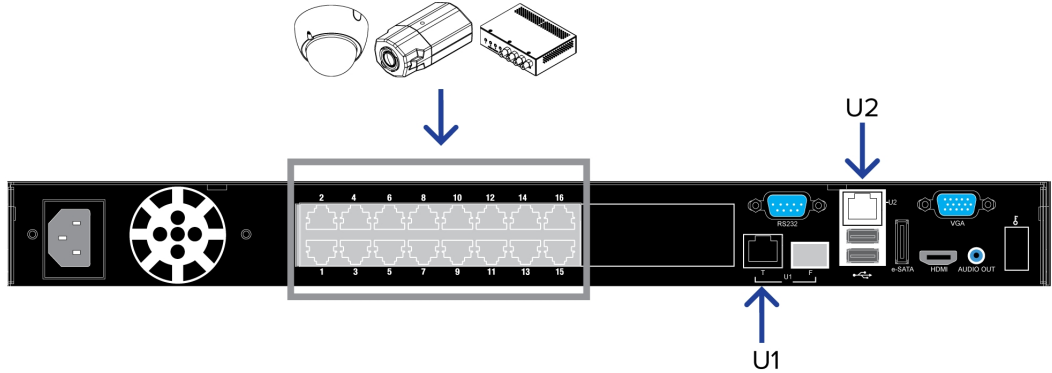
Figure 3: Example of external DHCP network connections on a 16 port HD Video Appliance

1. Connect a network cable from the router or switch to the appliance's **U1** port.
2. Connect Avigilon cameras to the numbered ports.
3. If you would like to access the internet through the HD Video Appliance, you can add an internet connection to the **U2** port. The U2 port is separate from the numbered camera ports, so it will not interfere with video recording.

After you've made the required network and camera connections, you can configure the Avigilon Control Center system. See *Configuring the Avigilon Control Center Software* on page 11.

Configuring an Internal DHCP Network

If you plan to connect other network devices to the HD Video Appliance, you may need to set up the appliance to be a DHCP server. Some network devices rely on a DHCP server to receive an IP address before it can work.

NOTE: After you setup the internal DHCP server, do not connect any external DHCP servers to the appliance or there may be address conflicts and cause connection issues.

Tip: If you are only going to connect Avigilon cameras to the appliance, you do not need to set up a DHCP server. For more information, see *Configuring a No DHCP Network* on page 5.

1. From the appliance, access the Windows Network Connections window.

    - Select **Start** > **Control Panel** > **Network and Sharing Center** > **Change adapter settings**.

    - From the Start menu, search for `ncpa.cpl`.

2. In the Network Connections window, right-click the Local Area Connection for the Intel Gigabit Network Interface and select **Properties**.
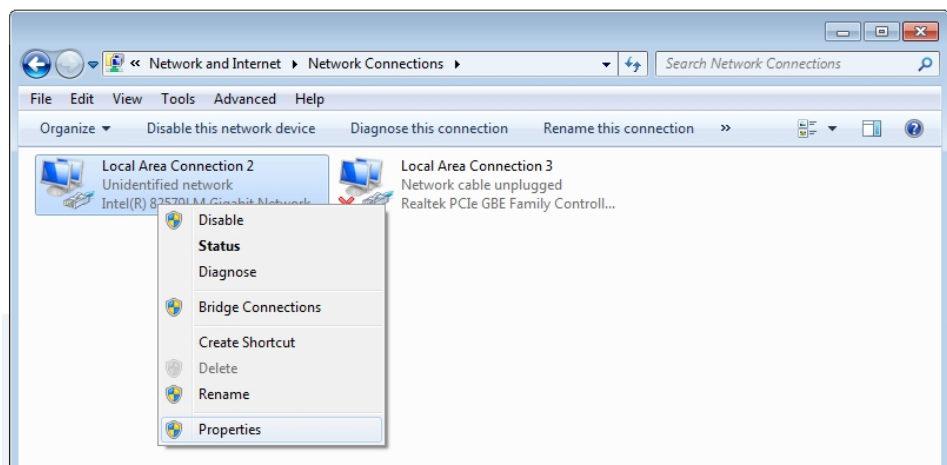
Figure 4: The Network Connections dialog box

3. In the following dialog box, double-click **Internet Protocol Version 4(TCP/IPv4)**.

4. Assign a static IP address for the appliance so that it can connect to the switch component.

    By default, the appliance is not connected to the switch component. The appliance must be connected to the switch component before you can configure the system to be a DHCP server.

The default IP address of the switch component is 192.168.50.1. *Do not* assign this address for the appliance. You can use 192.168.50.**2** or higher. It is recommended that you only change the last digit.
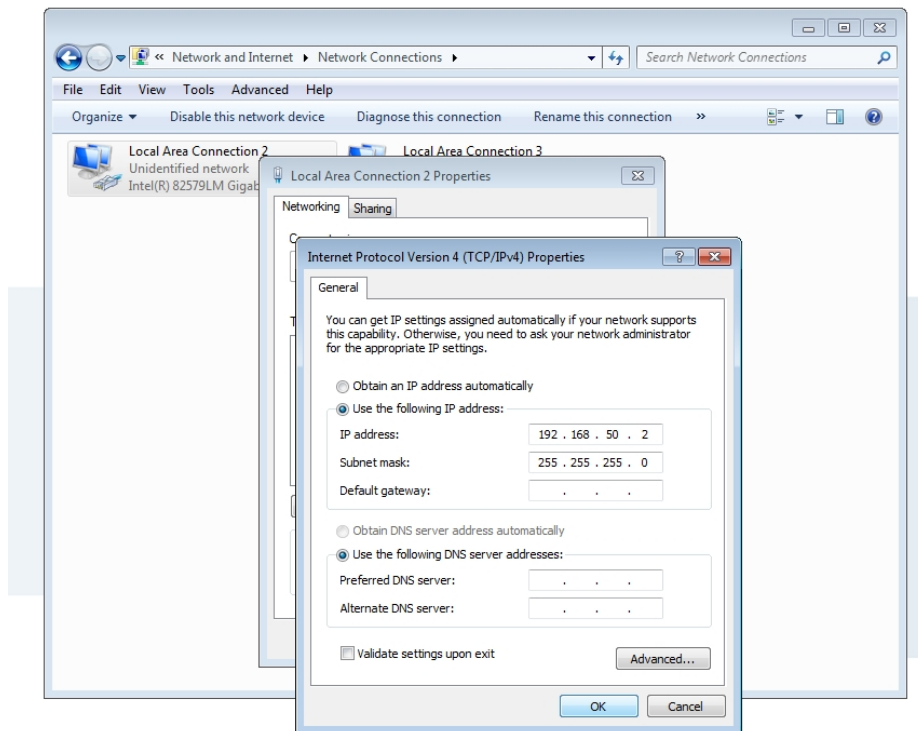
Figure 5: The Internet Protocol Properties dialog box

     a. In the **Use the following IP address** field, enter `192.168.50.2` or the IP address you prefer.

     b. In the **Subnet mask** field, enter `255.255.255.0` if it is not automatically entered.

     c. Click **OK** to save your changes.

5. Open the Switch Management Console.

     a. In a web browser, enter `192.168.50.1` into the address bar.
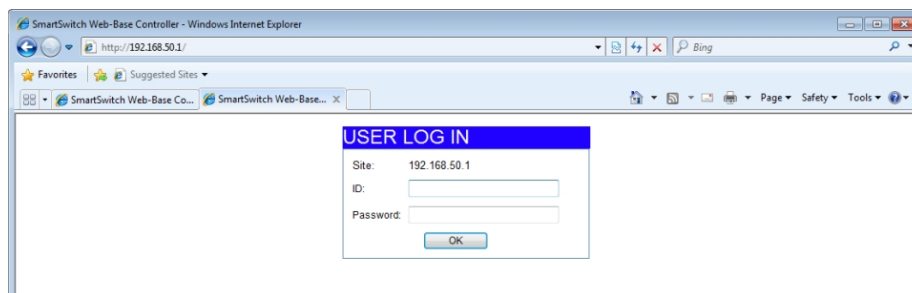
Figure 6: The Switch Management Console Log In screen

     b. When the log in screen appears, enter the default ID and password:

         • **ID:** admin

         • **Password:** system

     c. Click **OK**.

6. Once you are logged in, click **DHCP Server Settings** from the left menu pane.

7. In the Server State setting area, select **Enable** then click **Update**.
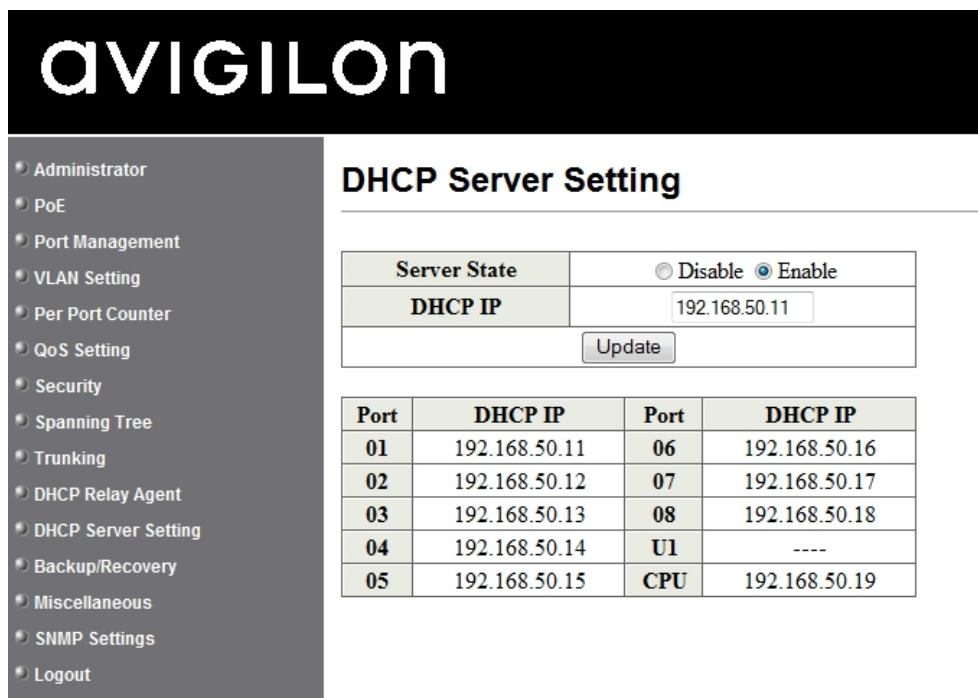
Figure 7: The DHCP Server Settings page

The appliance is now set to act as a DHCP server.

As you add cameras and network devices, the IP address for each item will be listed beside the connected port number.

NOTE: The U1 port on the HD Video Appliance is not part of this DHCP setting. Only the PoE camera ports broadcast DHCP.

8. Connect Avigilon cameras and other network devices to the numbered ports.

Each connected device is automatically assigned an IP address by the appliance.
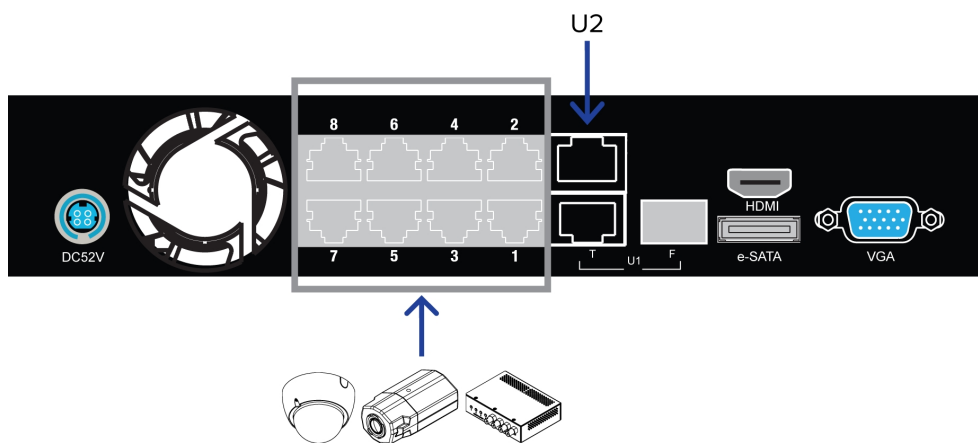
Figure 8: Example cable connections on an 8 port HD Video Appliance.

9. If you would like to access the internet through the HD Video Appliance, you can add an internet connection to the **U2** port. The U2 port is separate from the numbered camera ports, so it will not interfere with video recording.

After you've made the required network and camera connections, you can configure the Avigilon Control Center system. See *Configuring the Avigilon Control Center Software* on page 11.

Configuring the Avigilon Control Center Software

After you set up and license the HD Video ApplianceNVR WorkstationRemote Monitoring Workstation, it is recommended that you complete the following steps to configure the ACC system.

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

After you install the ACC Client software, start the application and access the HD Video ApplianceACC ES Analytics Appliance.

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.

- From the Avigilon Control Center Admin Tool, click **Launch Control Center Client**. For more information, see the *Avigilon Control Center Server User Guide*.

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 Client software, you are immediately asked to log in to a site. By default, the HD Video ApplianceACC ES Analytics ApplianceNVR 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	• In the System Explorer, select one or more sites then right-click and select **Log Out**.
Log out of all sites	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 system for the first time, it is recommended that you change the default administrator password.

1. At the top-left corner of the application window, click ☰ to open the New Task menu.

2. From New Task menu, click ⚙.

3. In the Setup tab, click 👥.

4. In the following dialog box, select the administrator user name and click ➡.

5. Click **Change Password...**.

6. In the following dialog box, enter a new password and then confirm the new password.

7. 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 System

After all the cameras in your system have been physically connected to the HD Video ApplianceACC ES Analytics Appliance, you need to connect the cameras to the ACC system so that video can be recorded and indexed for search.

1. In the site Setup tab, click 📷 .

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

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

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

3. In the Connect Camera 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 **Camera 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. In the **Connection Type:** drop down list, select **Primary**. The device will automatically connect to this server if they are in the same network.

   If you are creating a failover connection, select Secondary or Tertiary.

6. In the **License Priority:** drop down list, select the appropriate license priority. The highest priority is **1** and the lowest priority is **5**.

   NOTE: This option is only available if you are connecting to a Secondary or Tertiary server.

The License Priority: setting decides the order that devices are connected to the server. The server will try to connect cameras with a higher priority before cameras with lower priority. If the server does not have enough camera channel licenses, low priority devices may not be connected. A camera channel license is only used when the device actually connects to the server.

7. If the camera supports a secure connection, the **Camera 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.

8. 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.

9. Click **OK**.
10. If the device is password protected, the Camera 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.

NOTE: Be aware that the system recording schedules use the same timezone as the appliance. For more information about setting the time, see *Setting the Date and Time* on page 1.

1. In the server Setup tab, click ![icon]. 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.
   - **Digital Inputs** — only record video when a digital input is activated.
   - **Alarms** — only record video when an alarm is activated.

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 ![icon]. 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 9: 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 system, 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 .
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. 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. 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.
6. Click **OK** to save the new group.

Adding Users

1. In the site Setup tab, click ![icon].

2. In the Users tab, click ![icon].

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. In the Password area, complete the following fields:

   - **Password:** — enter a password for the user.

   - **Confirm Password:** — re-enter the password.

   - **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.

7. In the Member Of tab 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.

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 Avigilon Control Center Client software, the system can start running.

In the following list are 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.

- Add a joystick
    - If you prefer to control PTZ cameras with a standard USB joystick, you can install and set up a joystick from the Client Settings dialog box.
    - If you prefer use the Avigilon Professional Joystick Keyboard with the Control Center Client software, you can install and setup the joystick keyboard from the Client Settings dialog box.
- Email notifications
    - You can set up an SMTP email server to send you messages when system events occur.
    - If you have a Standard Edition system, you can set up detailed rules to notify you when specific events occur.
- Setup the Gateway
    - The Avigilon Control Center 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 Avigilon Control Center Mobile app on your mobile device so that you can monitor live and recorded video anywhere.

LED Indicators

The following list describes what the LEDs on the front of each HD Video Appliance indicate.

- ⏻ **Appliance Status** — The LED is on if the appliance is powered and running.
- **1** to **8/16/24** — The connection status of each camera that is connected to the appliance.
    - Orange — The LED is orange if the camera is only using the switch for a network connection.
    - Green — The LED is green if the camera is using the switch for PoE power and as a network connection.
- ⚡ **PoE Status** — The LED will start to blink if the appliance starts to reach its PoE output capability.
- ⊟ **Hard Drive Status** — The LED will blink if the hard drives are in use. If the LED is off, the hard drives are not being detected.
- **U1**/**U2** **Network Status** — The network connection speed at the U1 or U2 ports.
    - Orange — The LED is orange if the network speed is 1000 Mbps.
    - Green — The LED is green if the network speed is 1/100 Mbps.

Restarting the Operating System

If the operating system ever freezes or displays a fatal system error, you can restart the operating system by using the reset switch on the front of the appliance.

NOTE: When you use the reset switch, the appliance must be powered.

The operating system reset will not affect the switch component or the connected cameras.

- On the 8 port model, the reset switch is located at the front of the appliance and is the small unlabeled hole between the USB ports and the status LEDs.
- On the 16 and 24 port model, the reset switch is locate at the front of the appliance and is the small unlabeled hole between the ⏻ and ⚡ status LEDs.

Once you've found the reset switch on the appliance, complete the following steps:

1. Using a straightened paperclip or similar tool, gently press and hold the reset switch.

    ⚠ **CAUTION —** Do not apply excessive force. Inserting the tool too far will damage the appliance.

2. Do not release the reset switch until the monitor connected to the appliance turns off, or the ⊟ **Hard Drive Status** LED stops blinking.

Once you release the reset switch, the operating system should automatically restart.

Replacing a Hard Drive

NOTE: 16 and 24 port models only. This procedure is for replacing the storage drives. If you experience an operating drive failure or any drive issue with the 8 port model, contact Avigilon Technical Support immediately for assistance.

If the Avigilon Control Center software starts to perform excessively slow or becomes prone to freezing, these may be signs of a potential hard drive failure.

If the HD Video Appliance starts to beep and does not stop, a drive has failed.

To confirm which hard drive the issue may be with, open the JMicron RAID Manager application.

1. From the Windows Start menu, select **All Programs** > **JMicron HW RAID Manager** > **JMicron HW Raid Manager**. The JMicron application may be slow to start.

2. In the Basic Mode tab, select **RAID and Disk Information** if it is not automatically displayed.

You need to replace the hard drive if:

- The RAID status is *Degraded*.
- The failed Disk is highlighted in red.

In the JMicron HW RAID Manager, the hard drives are listed as Disk 1 to 4. From the front of the appliance, Disk 1 is the hard drive installed on the far left and Disk 2 - 4 are installed beside each other from left to right.

If more than one drive has failed, immediately shut down your system and contact Avigilon Technical Support for possible recovery instructions.

Important: Always replace a hard drive with one of the same size, make and model, or the appliance will continue to fail.

To replace a failed hard drive, complete the following steps.

1. Shut down the HD Video Appliance

2. Disconnect all cable connections from the appliance. This includes all cameras. It is highly recommended that you do not reconnect cameras until after completing this procedure.

3. Remove the screws from the top, left and right sides of the appliance.

   Be aware that the top screws are different from the side screws.

4. Standing before the front of the appliance, pull the appliance cover towards you until it slides off.
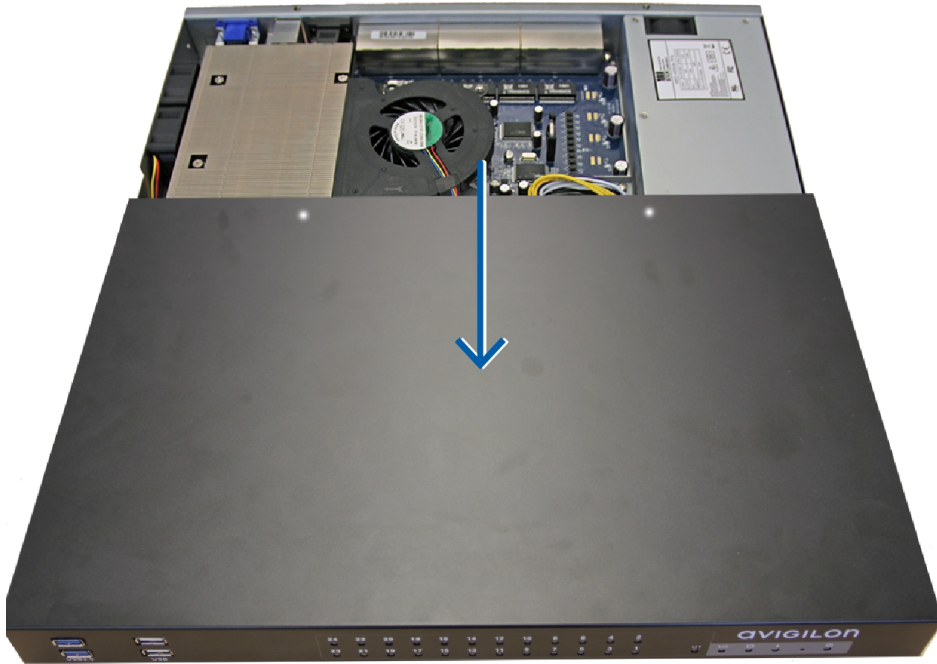
Figure 10: Pull the cover off the HD Video Appliance from the front.

Once the cover has been removed, you will see the four hard drives at the front. The hard drives are numbered Disk 1 to 4 from left to right.

Figure 11: HD Video Appliance with the cover removed.

5. Remove the two silver screws attached to the hard drive base plate at the front of the appliance.
6. From the back of the hard drive, push the hard drive towards you until it is released from the appliance.

7. Lift the hard drive out of the appliance.

8. Turn the hard drive upside down, and remove the four screws holding the hard drive to the base plate.

Figure 12: Hard drive removed from the base plate.

9. Remove the failed hard drive.

10. Attach the new hard drive to the base plate.

11. Place the new hard drive into the appliance, then push it into the appliance connector before you screw the hard drive base plate into place.

12. Reinstall the appliance cover.

13. Connect your mouse, keyboard and monitor back to the appliance.

14. Connect power to the appliance and allow the system to restart.

    The system will immediately begin to rebuild the RAID.

15. When prompted, allow Windows to start normally.

16. Once Windows has loaded, select **Start >All Programs > JMicron HW RAID Manager > JMicron HW Raid Manager**.

17. In Basic Mode, select the **RAID and Disk Information** tab and confirm that the RAID status is *Rebuilding %*.

    Important: While the RAID is being rebuilt, do not reconnect cameras, open other applications or allow other network instances of the Avigilon Control Center Client software to connect to the appliance. If you try to resume normal operations while the RAID rebuilds, you may lose recorded data and cause further issues in the appliance.

    The RAID may take up to 100 hours to rebuild depending on the total amount of recorded data and the load on the storage subsystem.

    When the rebuilding process is complete, the RAID status changes to *Normal*.

18. Once the system has finished rebuilding, reconnect all your cameras and resume normal operations.

Limited Warranty and Technical Support

Avigilon warranty terms for this product is provided at **avigilon.com/warranty**.

Warranty service and technical support can be obtained by contacting Avigilon Technical Support:
avigilon.com/contact-us/.