avigilon™

Installation Guide

Avigilon **NVR5 Premium**

NVR5-PRM-252TB-S19, NVR5-PRM-288TB-S19,
NVR5-PRM-360TB-S19, NVR5-PRM-432TB-S19

Table of Contents

Introduction

The Avigilon Network Video Recorder (NVR5 Premium) is preloaded with Avigilon Control Center (ACC) software and is configured for exceptional performance and reliability. The Network Video Recorder offered in higher data storage capacities can be easily integrated into any existing Avigilon surveillance system or act as the base of a new site.

Before You Start

Avigilon recommends:

- The use of an uninterruptible power supply (UPS) system to protect your video surveillance system hardware. A UPS system is used to protect critical equipment from mains supply problems, including spikes, voltage dips, fluctuations and complete power failures using a dedicated battery. It can also be used to power equipment during the time it takes for a standby generator to be started and synchronized.

  If possible, the UPS connection should include configuration to shut down the operating system on the appliance when battery power is low or there is 15 minutes of power remaining.

- Cameras should not be connected to the appliance until after the appropriate network configuration has been set up.

Overview

Front View
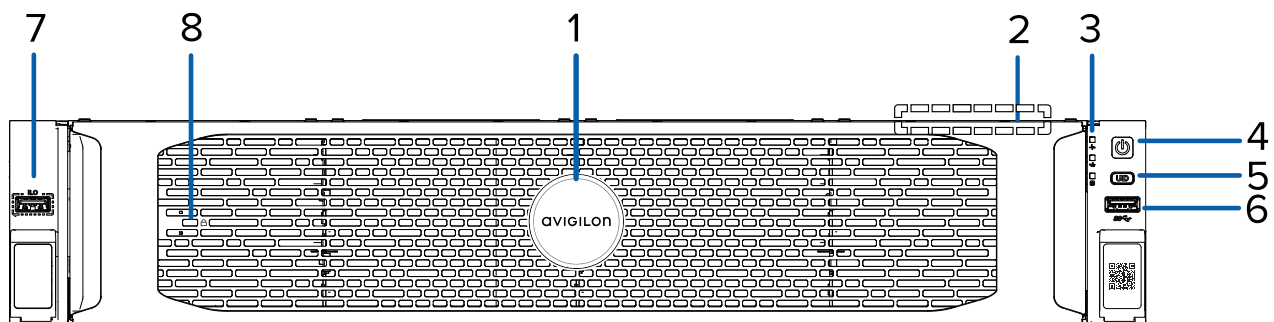
Figure 1: Front view of NVR5 Premium 252/288/360/432 TB Recorder with front bezel installed
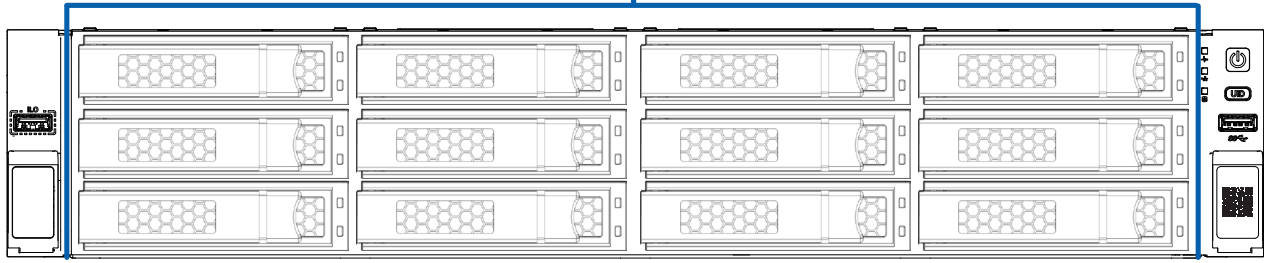
Figure 2: Front view of NVR5 Premium 252/288/360/432 TB Recorder with front bezel removed

1. **Bezel**

   Protects against unauthorized physical access to the hard drives.

   For more information, see *Install the Bezel* on page 10.

2. **iLO label** (top view is not shown)

   Provides the iLO (Integrated Lights-Out) serial number and Out-of-Band Management (OOBM) account credentials for initial login to the iLO web interface.

   For more information, see the important note in *Installation* on page 9.

3. **Diagnostic indicators**

   Provides information about system operations.

4. **Power and Standby button with LED indicator**

   Controls the power supply to the recorder. Also places the system in standby.

5. **UID button with LED indicator**

   Displays the Server Health Summary when the recorder cannot be powered up.

   For more information, see *Viewing the Server Health Summary* on page 16.

6. **USB 3.0 port**

   Accepts USB connectors to external devices.

7. **iLO Service USB 2.0 port**

   Accepts USB connectors to external devices to download the Active Health System Log.

   For more information, see *Downloading the Active Health System Log* on page 17.

   Accepts USB-to-Ethernet adapters to connect a laptop, or desktop computer on the same network as iLO, to access the iLO web interface.

   For more information, see *Checking System Health* on page 16.

8. **Kensington® security slot**

   Accepts a Kensington lock.

9. **Hot-swappable hard drives**

   Provides access to hot-swappable hard drives in front, center and rear cages or trays (center and rear cages or trays are not shown). Some drives may contain an empty hard drive tray.

   For more information, see *Replacing Hard Drives* on page 17.

For more information about the above LED indicators, see *LED Indicators* on page 27.

Back View
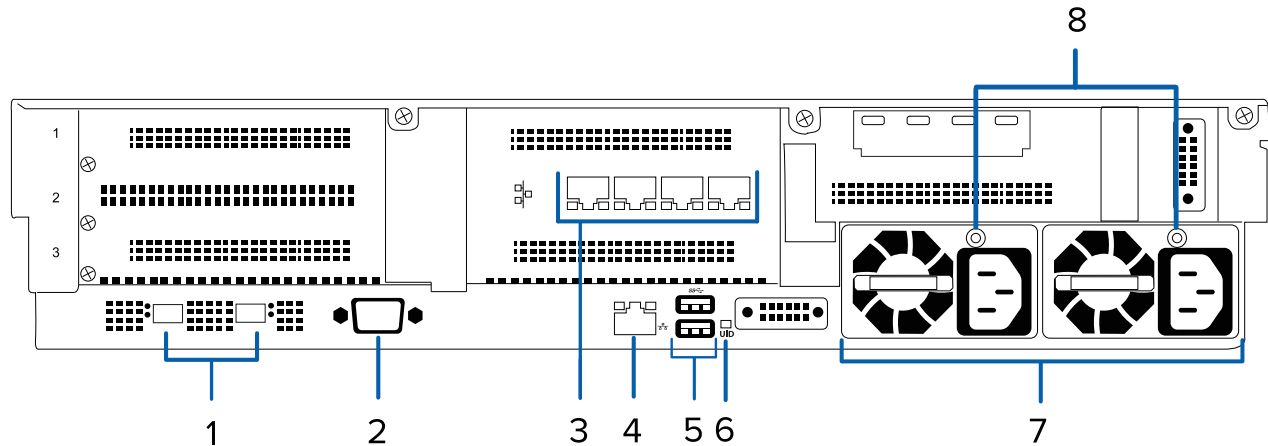
Figure 3: Rear view of NVR5 Premium 252/288/360/432 TB Recorder

1. **Two (2) 10Gbps SFP+ Ethernet ports**

   Accepts Ethernet connections to multiple networks and includes LED indicators of the connections.

2. **Video connector**

   Accepts a standard 15-pin VGA monitor cable.

3. **Four (4) 1 Gbps Ethernet ports**

   Accepts Ethernet connections to multiple networks and includes LED indicators of the connections.

4. **Out-of-Band Management (OOBM) port**

   Accepts an OOBM RJ-45 connection and includes an LED indicator of the connection.

5. **Keyboard port and mouse port**

   Accepts connectors to a keyboard and mouse.

6. **UID LED indicator**

   Identifies a recorder deployed in a rack with other equipment.

7. **Two (2) Power supply connectors**

   Accepts a power supply connection.

8. **Power supply LED indicators**

   Displays the status of the power supply.

For more information about the above LED indicators, see *LED Indicators* on page 27.

Package Contents

Ensure the package contains the following:

- Avigilon NVR5 Premium Recorder
    - iLO Advanced 1-server License 5yr Support[1]
- Rack sliding rail assembly kit
- Cable management arm assembly kit

- Bezel with a Kensington slot
    - Kensington lock included in a separate kit
- Power cables
    - 2 x C13 / C14
    - 2 x region specific

        NA: NEMA 5-15P / C13
        UK: BS 1363 / C13
        EU: SCHUKO / C13
        AU: AS3112 / C13

[1] The 3-year support shown in iLO materials has been extended by Avigilon.

Installation

> **Note:** Before you start, obtain the serial number and default user name, DNS name, and password for the iLO and OOBM account from the iLO label, which is displayed on the top panel of the front cage.

> **Important:** Avigilon recommends changing the default iLO password (eight characters) after initial login to protect your recorder from unauthorized remote access. If you reset iLO to the factory default settings, use the default iLO account credentials to log in after reset.

Connect Cables

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

1. Connect a KVM switch or separate keyboard, mouse and monitor to the recorder.
    - The keyboard and mouse can be connected to any USB port on the recorder.
    - The monitor can be connected to any video connector at the front or back of the recorder.
2. Connect the recorder to your network by plugging an Ethernet cable into one of the Ethernet ports.
3. For out-of-band management access and functionality, connect Ethernet cable to the OOBM connector.
4. Connect a power cable to each power supply at the back of the recorder.

Install the Sliding Rack Rails and Cable Management Arm

If the recorder will be mounted in a server rack, install the Sliding Rack Rails and the Cable Management Arm (CMA) provided in the recorder package. Follow the procedures outlined in the *Rack Installation Instructions* and the *CMA Installation Instructions* provided in the assembly kits.

> **Note:** When rack-mounting the recorder, ensure no interference occurs from the sliding arms of adjacent equipment in the rack. Every sliding rack rail on the server rack must be aligned before you insert the recorder into the rail for a smooth installation. For more information, refer to the dimensions in your server rack design documentation.

Install the Bezel

The bezel can be installed on the front of the recorder to help protect the hard drives against unauthorized access.
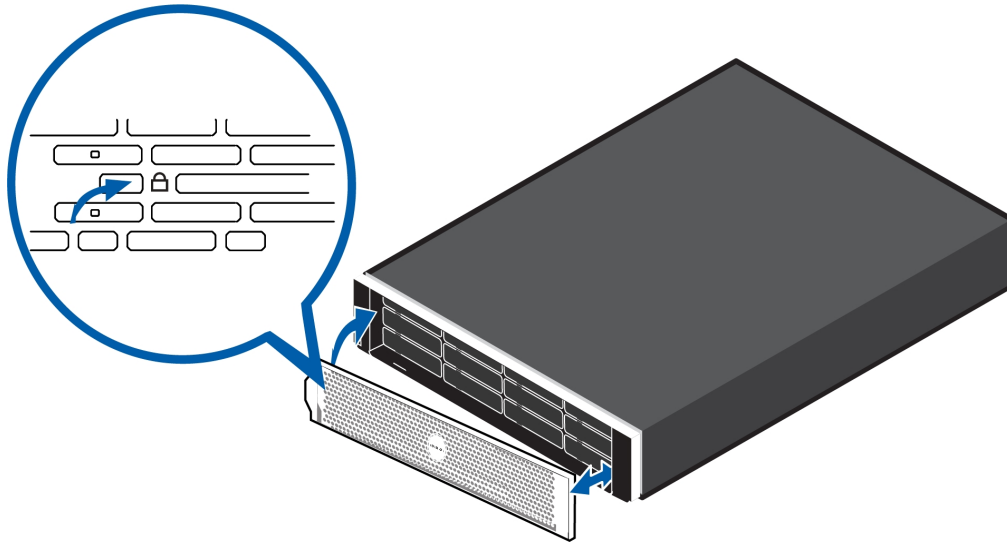
1. Align and insert the right end of the bezel until it clicks into place.
2. Push the left end of the bezel into the front of the unit until it clicks into place.
3. Adjust the Kensington cable and insert the T-bar into the security slot on the bezel.
4. Use the provided key or turn the keyless four-wheel combination to lock the bezel.

Log into Windows Server for the First Time

Windows Server 2019

After the recorder powers up, you will need to configure the Windows operating system for the first time.

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

Figure 4: The language selection screen during initial Windows software set up. (Used with permission from Microsoft.)
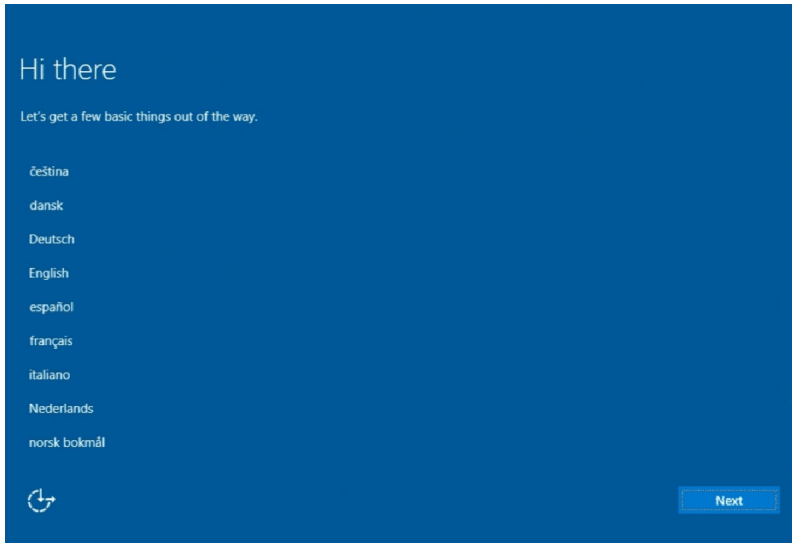
2. Select the country/region, preferred app language and keyboard layout, and then click **Next**.
   NOTE: If a language other than English is selected, the server will restart. This is normal Windows behavior. Proceed with step 3 once the server has finished restarting.

3. Select the Desktop Experience version of the operating system and click **Next**.

4. The End User License agreements are displayed. Review the terms and click **Accept**.

5. On the Customize settings screen, set a password for the local administrator account.
   The password should:

   - Have a minimum length of 7 characters.

   - Meet complexity requirements. See **https://technet.microsoft.com/en-ca/library/cc956977.aspx** for details.

   You cannot reuse your last 24 passwords.

   The password will expire in 42 days.

6. Press Ctrl+Alt+Delete to unlock and type in the credentials created in the previous step.

7. Once logged in, the recorder will go through initial system setup.

8. The Setup dialog will start configuring the system storage. This process may take up to 5- 10 minutes depending on the size of the storage volume.

9. Once the setup procedure is complete, the system will restart.

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

Activate the ACC Software and Connect to Avigilon Cloud Services

After you have deployed your NVR5 Premium recorder, activate your ACC software and feature licenses and connect to Avigilon Cloud Services.

Activate ACC Software and Feature Licenses

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

> **Important:** When a new server is added to or removed from a multi-server site, the existing site licenses become inactive and must be reactivated to confirm system changes. See *Reactivating a License* below.

- **Initial ACC™ System Setup and Workflow Guide**
- **ACC 7 Help Center**

Printable versions of these guides are available on the Avigilon website: **avigilon.com/support/software/**.

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

Connect to Avigilon Cloud Services

After activating your ACC software, you can connect your ACC site to the cloud, which may require a subscription, and take advantage of the capabilities and features that provide centralized access across distributed systems.

To connect your site to Avigilon Cloud Services, see **help.avigilon.com/cloud**.

For information about the cloud services, see **Avigilon Cloud Services Support**.

You can start to back up the system settings for your new site in the ACC Client software after it is configured. These settings include the ACC password, and the settings for the camera connections. For more information on backing up the site and server configurations, see the *Avigilon ACC Client User Guide*.

Reactivating a License

FOR ENTERPRISE EDITION

When servers are added to or removed from a site, the site licenses become inactive and must be reactivated to confirm system changes.

If you do not reactivate the affected licenses, the site will stop normal operations.

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

2. Click the site name, then click 🎽 .

3. Click **Reactivate Licenses...**.

   If you have Internet access:

   1. Click **Reactivate Licenses**.

   2. Click **OK** to confirm your changes.

   If you do not have Internet access:

   1. Select the **Manual** tab.

   2. Click **Save File...** and choose where you want to save the `.key` files.

   3. Copy the `.key` files to a computer with internet access:

      1. Go to **activate.avigilon.com**.

      2. Click **Choose File** and select the `.key` file.

      3. Click **Upload**. A `capabilityResponse.bin` file should download automatically.
         If not, allow the download to occur when you are prompted.

      4. Complete the product registration page to receive product updates from Avigilon.

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

4. In the License Management dialog box, click **Apply...**.

5. Select the `.bin` file and click **Open**.

6. Click **OK** to confirm your changes.

Troubleshooting

Network Configuration

By default, the NVR5 Premium acquires an IP address on the network through DHCP. If you need to set up the workstation to use a static IP address or any specific network configuration, see the *Windows Help and Support* files for more information.

Monitoring System Health

You can monitor the health of the system components in the Site Health in the ACC Client software. See the Help files provided with the ACC Client software, or the *Avigilon ACC Client User Guide* available from the Avigilon website for more information.

Operating System Recovery By Avigilon Recovery Partition

If you need to recover the Windows operating system, the NVR5 Premium includes an onboard Avigilon recovery partition that is separate from the operating system partition. The advantage of using the Avigilon recovery partition is that you do not need an internet connection to download the recovery image and you do not need to create a bootable USB recovery device.

Important: Your operating system drive will be erased and restored to factory settings. Before you proceed with operating system recovery, complete any necessary backups of custom ACC configuration and video recordings. For more information about ACC software backups, see **avigilon.com/recovery**.

**Note:** After operating system recovery, you need to reinstall the previously installed ACC software. Depending on when your NVR5 Premium was shipped, it is recommended that you connect to the network when possible to install updates for Windows and ACC Client software after system recovery is completed.

1. Start operating system recovery in one of the following ways:

   - On your Windows desktop, select ⊞ and then hold down the **Shift** key and select **Restart**.
   - On your locked Windows screen, select ⏻ and then hold down the **Shift** key and select **Restart**.
   - During direct boot of the operating system, repeatedly press the down-arrow key and select the partition.

2. On the **Choose an option** screen, select **Use another operating system**.

3. Select the **OS Recovery** partition.

4. On the **Avigilon Recovery** window, select **Recover**.
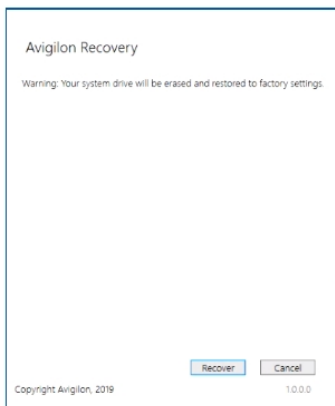
   Allow up to half an hour for the recovery to complete.

5. After system reboot, complete the Windows setup process.

   For more information about setting up a Windows Server 2019 operating system, see *Log into Windows Server for the First Time* on page 11.

   Note: During the Windows setup steps, you will not be asked to choose a version and install

the ACC software. The ACC software installation is covered in the following step.

6. Navigate to `C:\Avigilon\Control Center Installation Files`, and run the ACC installer for the version of ACC software in use at your site.

   If needed, connect to the internet and download the required ACC installers.

Operating System Recovery By External USB

If you need to recover the Windows operating system on the Network Video Recorder and you have access to the internet, download the latest Avigilon Recovery Image from **avigilon.com/recovery** and refer to Support and Downloads for the following information:

- Minimum size of the USB recovery device
- Creating an external USB recovery device
- Recovering the operating system from an external USB recovery device

The general steps are:

1. Load the Avigilon Recovery Image onto a USB recovery device.

   For the instructions on creating a USB recovery device, see the *Windows Upgrade and Recovery Guide for Avigilon Systems* (**link**).

2. Plug the USB recovery device into the recorder.

3. Press the **F11** key while booting the recorder.

4. On the Boot menu, select the USB recovery device from the **One-Time Boot Menu**.

Maintenance

Checking System Health

You can check your system health through the ACC Client Site Health and iLO web interface.

For more information, see the iLO web interface documentation (**link**).

ACC Client Site Health

You can check on the health of the system components in the Site Health in the ACC Client software. See **Site Health** in the *ACC Client User Guide* for more information.

> **Note:** ACC Advanced System Health Package notifications for the NVR5 Premium recorder (252TB - 432TB) requires ACC version 7.14.8 or later, and ACS version 3.28.16 or later.

Viewing the Server Health Summary

You can display the Server Health Summary on an external monitor when the recorder is powered on or off. Use it for troubleshooting when the recorder does not start up, and view the server IP address and other health information.

1. If not done, connect a monitor to the recorder.
2. Press the **UID** button on the front of the recorder to display it.
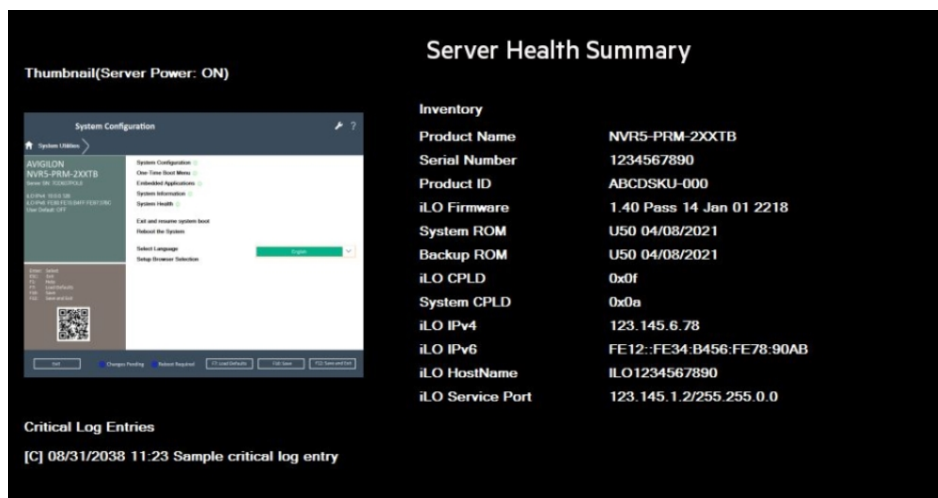
3. Press the **UID** button again to close the summary.

Downloading the Active Health System Log

> **Note:** Before you start, make sure the iLO Service Port and USB flash drives options are enabled in the iLO web interface.

The Active Health System Log collects server information, processor model, storage capacity, memory capacity, speed, firmware and driver details for troubleshooting.

To download the log to a USB device, complete the following steps:

1. Create a text file named `command.txt` with the required content for downloading the log.
2. Save the file to the root directory of a supported USB device.

   For more information, see *Overview* on page 5.
3. Connect the USB device to the **iLO** service port on the front of the recorder.

   The file system is mounted and the `command.txt` file is read and executed.

   The iLO Service Port status changes to Busy, and the UID flashes at a rate of four medium flashes, then off for one second. For more information, see *UID Status Indicator* on page 27.

   If the command is successful, the iLO Service Port status changes to Complete, and the UID flashes at a rate of one fast flash, then off for three seconds.

   The file system is unmounted.
4. Remove the USB device from the **iLO** service port.

   The iLO Service Port status changes to Ready, and the UID stops flashing or flashes to indicate another state such as Remote Console access or a firmware update in progress. For more information, see *UID Status Indicator* on page 27.

Replacing Hard Drives

Guidelines

When replacing hard drives, observe the following general guidelines:

- The system automatically sets all device numbers.
- If only one drive is used, install the drive in the drive bay with the lowest device number. For example:
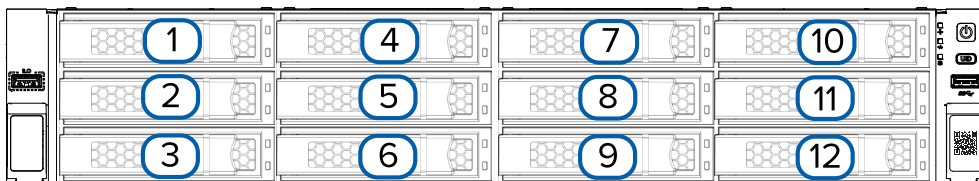
- Drives must be the same capacity to provide the greatest storage space efficiency when drives are grouped together into the same drive array.

WARNING — To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

WARNING — To reduce the risk of personal injury or damage to the equipment, adequately stabilize the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.

CAUTION — Do not operate the system for long periods with the front drive cages extended. When the front drive cages are extended while the system is powered on, monitor the status of the front drive temp sensor (08-HD Max) in iLO. If the iLO temp sensor (08-HD Max) reading is reporting an N/A value, monitor how long the drive cages have been out of the chassis. Before reaching the 110 second mark, slide the drive cages back into the chassis and keep them there for at least 300 seconds before extending them again.

Failure to observe this caution will result in improper airflow and insufficient cooling that can lead to thermal damage.

CAUTION — Do not operate the server with any of the front or rear drive cage bays empty. To maintain proper airflow and sufficient cooling, all drive bays in the front and rear cage must have a drive or a drive blank.

CAUTION — Do not operate the server with any of the rear drive bays empty. To maintain proper airflow and sufficient cooling in the rear drive cage, all drive bays in this cage must have a drive or a drive blank. Installing at least one drive in the rear drive cage is recommended before operating the server.

Powering Down the Recorder

Note: Before powering down the recorder for any upgrade, recovery or maintenance, back up critical recorder data and programs. For more information, see the *Windows™ Upgrade and Recovery Guide for Avigilon Systems* (**link**).

Important: When the recorder is in standby mode, auxiliary power is still being provided to the system.

WARNING — To reduce the risk of personal injury, electric shock or damage to the equipment, disconnect the power cord to remove power from the server. Pressing the ⏻ power and standby button does not shut off system power completely. Portions of the power supply and some internal circuitry remain active until AC power is removed.

To power down the recorder, do one of the following:

- Press and release the ⏻ power and standby button.

  This method initiates a controlled shutdown of applications and the OS before the recorder enters standby mode.

- Press and hold the ⏻ power and standby button for more than four seconds to force the recorder to enter standby mode.

  This method forces the recorder to enter standby mode without exiting applications and the OS. If an application stops responding, you can use this method to force a shutdown.

- Use a virtual power button selection through the iLO web interface.

  This method initiates a controlled remote shutdown of applications and the OS before the recorder enters standby mode.

Before proceeding, verify that the recorder is in standby mode by observing that the system power LED is amber.

Powering Up the Recorder

To power up the recorder, press and release the ⏻ power and standby button.

Replacing a Hard Drive Blank

The hard drives on the NVR5 Premium recorder are set up in a RAID configuration. This allows information to be recorded across several hard drives.

If one or two hard drives fail, there is enough information on the other hard drives for the recorder to continue recording video.

Depending on the recorder model, there may be hard drive blanks at the front of the recorder. You can replace the blanks with hard drives as required.

1. Remove the bezel.
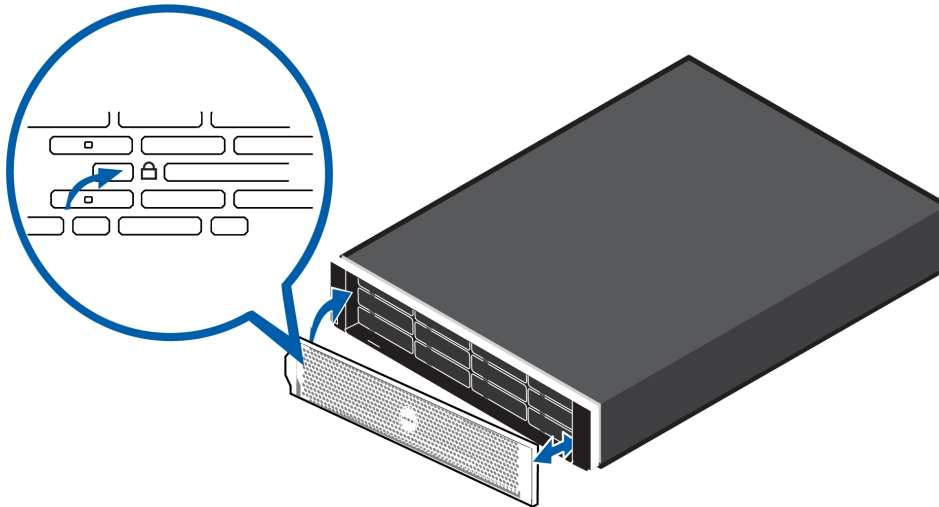
   a. Unlock the bezel.
   b. Push the release button next to the lock.
   c. Pull the left end of the bezel then unhook the right end to remove the bezel.
2. Press the release button and slide the blank out of the hard drive slot.
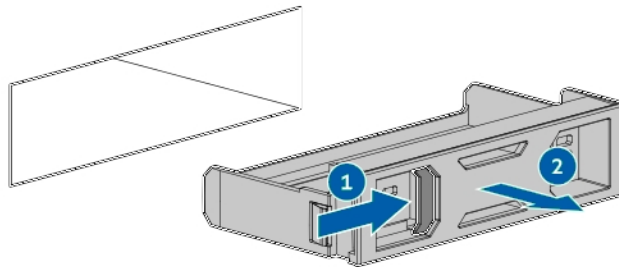
3. Insert the hard drive all the way into the recorder then push the handle against the hard drive to lock it into place.

Replacing Front Hard Drives

To replace a hard drive stored in the front of the recorder, complete the following steps:

1. Back up all recorder data.

   For more information, see the *Windows Upgrade and Recovery Guide for Avigilon Systems* (**link**).
2. Power down the recorder.

   For more information, see *Powering Down the Recorder* on page 18.
3. If installed, remove the bezel.
4. Determine the status of the hard drive LED.

   For more information, see *Hard Drive RAID Status Indicators* on page 29.
5. Wait until the Activity LED stops flashing.
6. To open the release lever, press the latch.

7. Pull the release lever to disengage the drive from the backplane, and then slide the drive out of the bay.
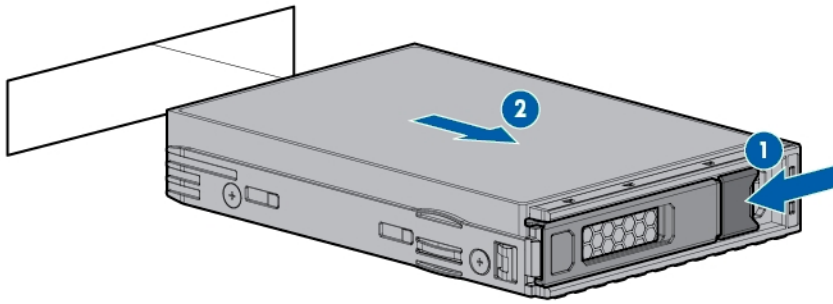
8. To replace the hard drive, reverse the above steps.

Replacing Center Hard Drives

To replace a hard drive stored in the middle of the recorder, complete the following steps:

1. Back up all recorder data.

   For more information, see the *Windows Upgrade and Recovery Guide for Avigilon Systems* (**link**).

2. Power down the recorder.

   For more information, see *Powering Down the Recorder* on page 18.

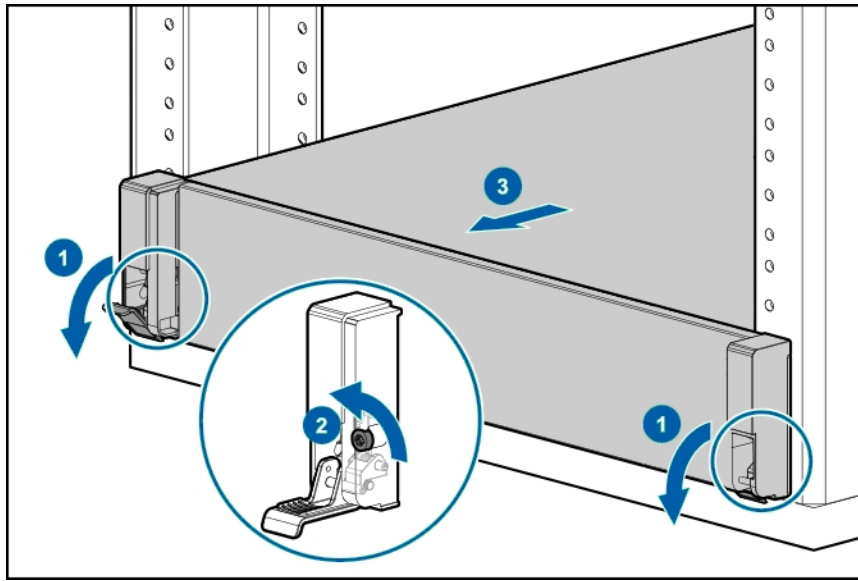3. Extend the server from the rack:

   ⚠ **WARNING —** To reduce the risk of personal injury from hot surfaces, allow the drives, power supplies, and internal system components to cool before touching them.

   ⚠ **WARNING —** To reduce the risk of personal injury or damage to the equipment, be sure that:

   - The rack is bolted to the floor using the concrete anchor kit.
   - The leveling feet extend to the floor.
   - The full weight of the rack rests on the leveling feet.
   - The racks are coupled together in multiple rack installations.
   - Only one component is extended at a time. If more than one component is extended, a rack might become unstable.
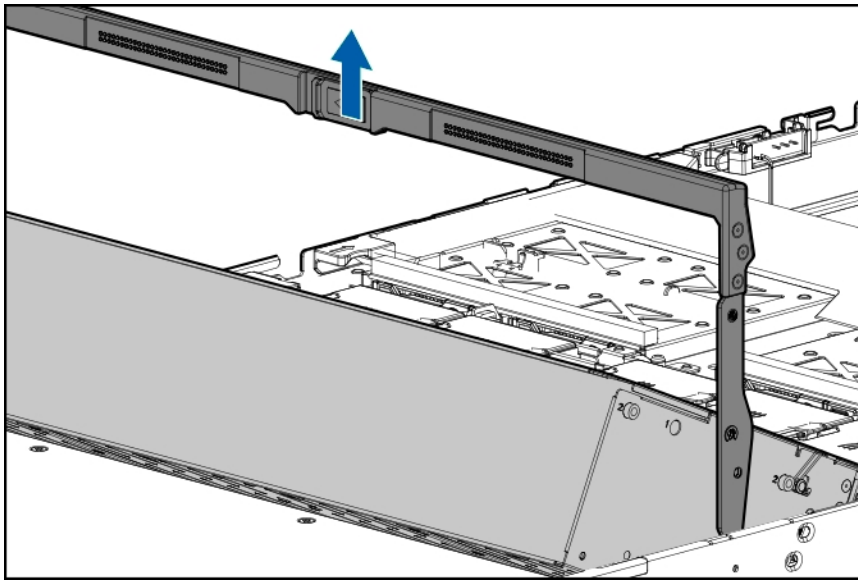
   a. Pull down the quick release levers on each side of the server (see '1' below).

   b. With a star-head screwdriver, loosen the screws behind both quick release levers (see '2' below).

   c. Extend the server from the rack (see '3' below).

    d. When done, slide the server back into the rack, and then press the server firmly into the rack to secure it in place.

4. Open drive cage 2:
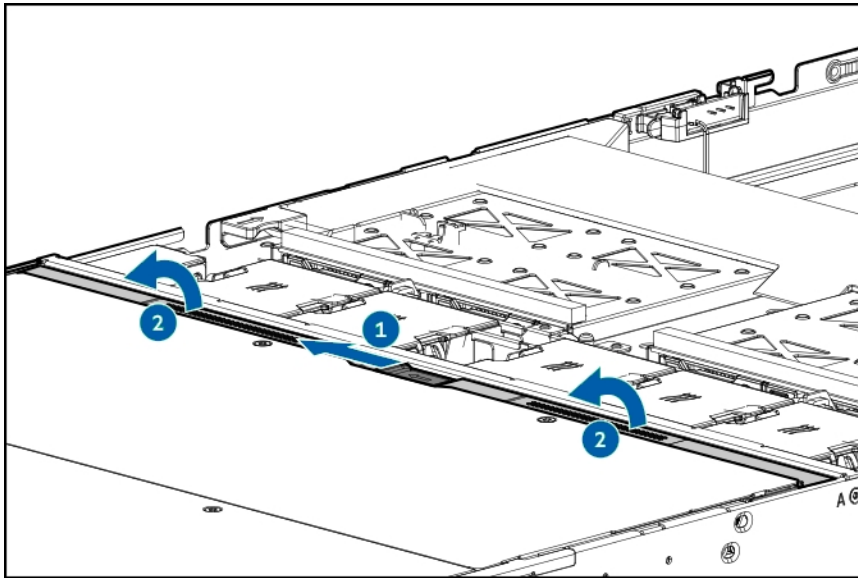
5. Determine the status of the hard drive LED.

    For more information, see *Hard Drive RAID Status Indicators* on page 29.

6. Wait until the Activity LED stops flashing.

7. To open the release lever, press the latch.

8. Pull the release lever to disengage the drive from the backplane, and then slide the drive out of the bay.
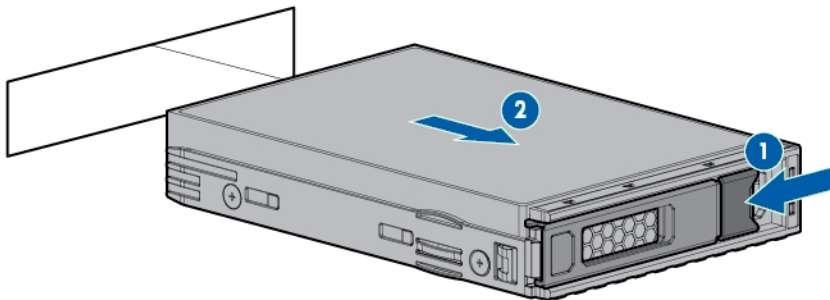
9. To replace the hard drive, reverse the above steps.

Replacing Rear Hard Drives

To replace a hard drive stored in the rear of the recorder, complete the following steps:

1. Back up all recorder data.

    For more information, see the *Windows Upgrade and Recovery Guide for Avigilon Systems* (**link**).

2. Power down the recorder.

    For more information, see *Powering Down the Recorder* on page 18.
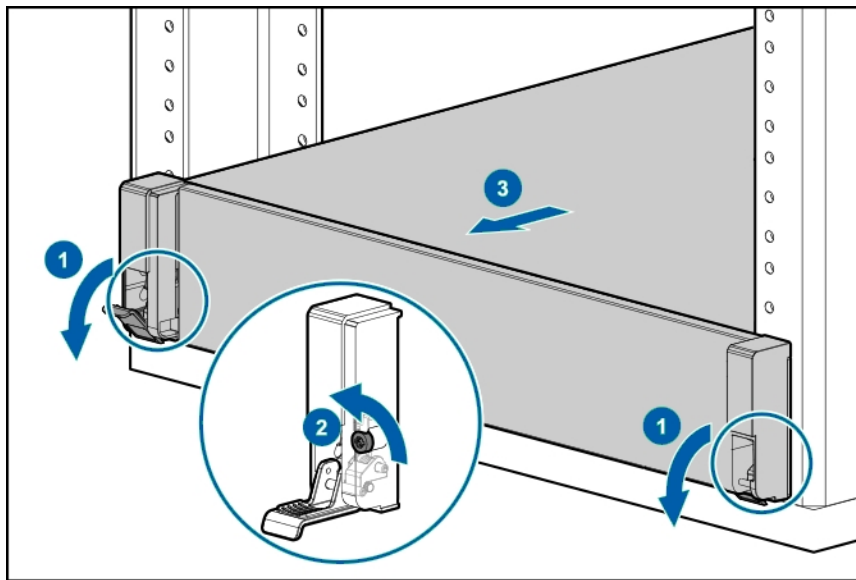
3. Extend the server from the rack:

> ⚠ **WARNING —** To reduce the risk of personal injury from hot surfaces, allow the drives, power supplies, and internal system components to cool before touching them.

> ⚠ **WARNING —** To reduce the risk of personal injury or damage to the equipment, be sure that:
> - The rack is bolted to the floor using the concrete anchor kit.
> - The leveling feet extend to the floor.
> - The full weight of the rack rests on the leveling feet.
> - The racks are coupled together in multiple rack installations.
> - Only one component is extended at a time. If more than one component is extended, a rack might become unstable.

   a. Pull down the quick release levers on each side of the server (see '1' below).

   b. With a star-head screwdriver, loosen the screws behind both quick release levers (see '2' below).

   c. Extend the server from the rack (see '3' below).

   d. When done, slide the server back into the rack, and then press the server firmly into the rack to secure it in place.
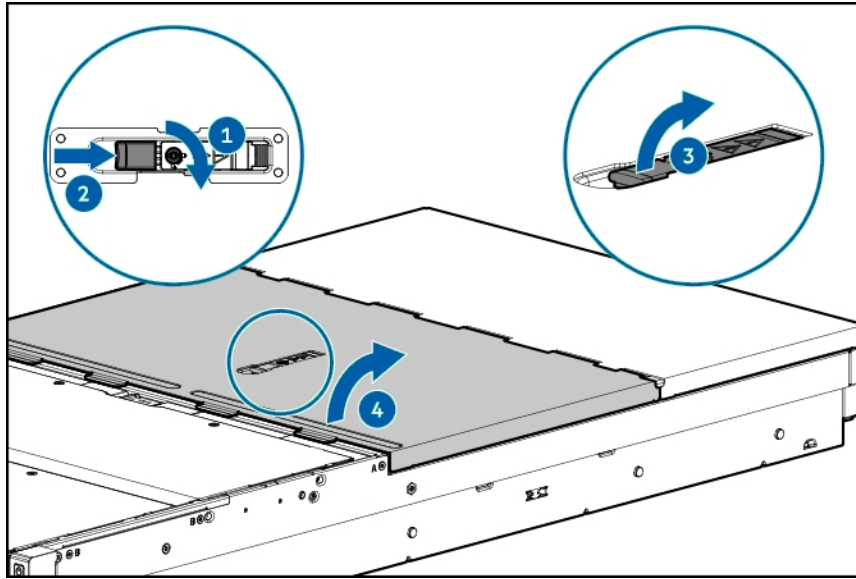
4. Open the access panel to access drive cage 3.

> ⚠ **CAUTION —** Do not operate the server for long periods with the access panel open or removed. Operating the server in this manner results in improper airflow and improper cooling that can lead to thermal damage.

a. Extend the server from the rack, as described in the previous step 2.

b. Remove the access panel:

c. If necessary, unlock the access panel latch.

d. Pull up the latch to disengage the access panel from the chassis.

e. Lift the front half of the access panel to access drive cage 3.

5. Open drive cage 3:
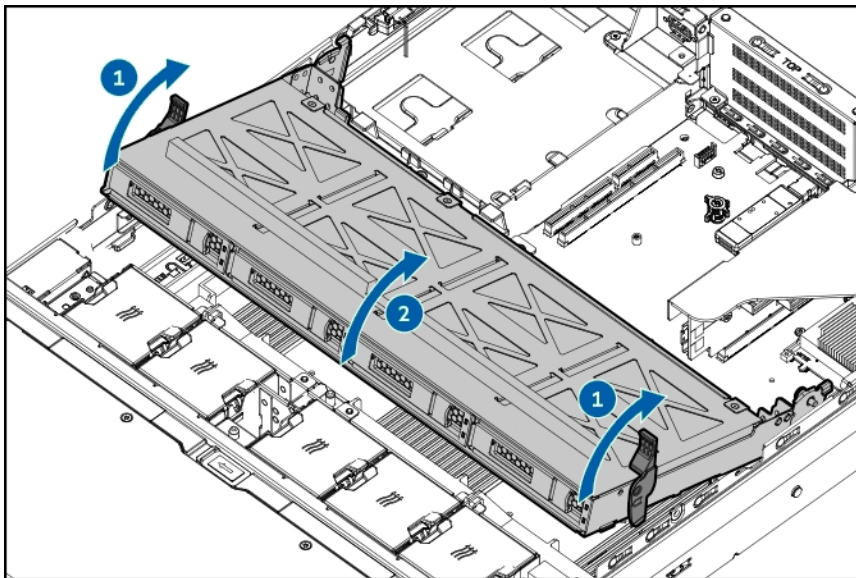
6. Determine the status of the hard drive LED.

   For more information, see *Hard Drive RAID Status Indicators* on page 29.

7. Wait until the Activity LED stops flashing.

8. To open the release lever, press the latch.

9. Pull the release lever to disengage the drive from the backplane, and then slide the drive out of the bay.
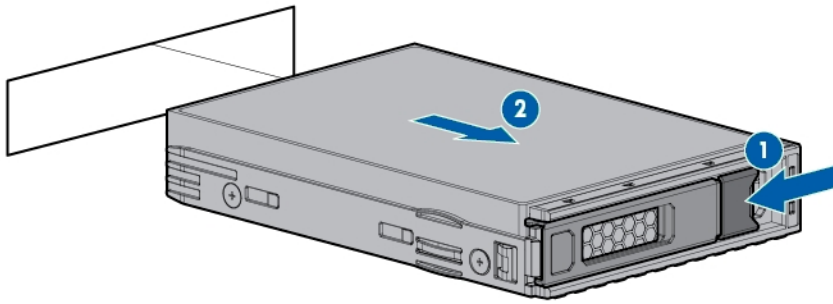
10. To replace the hard drive, reverse the above steps.

LED Indicators

The following tables describe what the LEDs on the recorder indicate. For more information on the location of the LED indicators, see *Overview* on page 5.

Front View

> **Note:** When the power status, UID status, system health and network status LED indicators are flashing simultaneously, a power fault has occurred.

Power Status Indicators

The [⏻] power and standby button indicator on the front of the recorder provides the following power and system state information:

LED Indicator	Description
Off	The power supply is not connected, power supply failure, or the facility power is off.
Steady amber	The power supply unit is connected. The recorder is in standby mode. ⚠ **WARNING —** To reduce the risk of personal injury, electric shock or damage to the equipment, disconnect the power cord to remove power from the server. Pressing the [⏻] power and standby button does not shut off system power completely. Portions of the power supply and some internal circuitry remain active until AC power is removed.
Flashing green	One flash per second: The power supply unit is powering up.
Steady green	The power supply unit is working and the recorder is powered.

UID Status Indicator

The **UID** button status on the front of the recorder indicates the following Server Health Summary states:

LED Indicator	Description
Off	The Server Health Summary is disabled.

LED Indicator	Description
Flashing blue	1 flash per second: The remote management or firmware upgrade is in progress.
	4 flashes per second: The manual reboot of the remote server management tool (iLO web interface) is initiated.
	8 flashes per second: The manual reboot of the remote server management tool (iLO web interface) is in progress.
Steady blue	The Server Health Summary is enabled.

Health Status Indicators

The ✦ indicator on the front of the recorder provides the following system health states:

LED Indicator	Description
Flashing red	One flash per second: The system is in a critical state.
Flashing amber	The system is in a degraded state. For more information, see *Checking System Health* on page 16.
	Note: If the health LED indicates a degraded or critical state, contact Avigilon Technical Support for assistance.
Flashing green	One flash per second: The remote server management tool (iLO web interface) is rebooting.
Steady green	The system is working.

Network Status Indicators

The ⊹ indicator on the front of the recorder provides the following network connection states:

LED Indicator	Description
Off	No network activity.
Flashing green	One flash per second: The network is active.
Steady green	The link to the network is active.

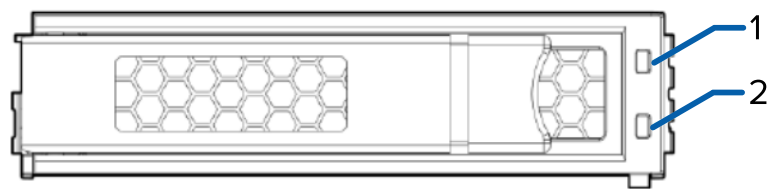## Health and Thermal Status Indicators for Hard Drives

The ⊜ indicator on the front of the recorder provides the following health states of the hot-swappable hard

drives:

LED Indicator	Description
Off	The power supply is not connected, the recorder is off, or the facility power is off.

Steady amber	One or more hard drives in the front, center or rear cage have failed or is predicted to fail.
	
	⚠ **WARNING —** Do any of the following:
	
	    • Review ACC Client Site Health.
	    • Replace the drive as soon as possible.

Steady green	All the hard drives in the front, center or rear cage are working.

Hard Drive RAID Status Indicators

Each hard drive has its own set of LED indicators to show its activity and status.

The following table describes what the LEDs indicate:

LED Indicator	Description
1. **Fault**	
Steady amber	The hard drive has failed.
Steady blue	The hard drive is working and being identified by a management application.
Flashing amber and blue (alternating)	One flash per second: The hard drive has failed or is predicted to fail and has been identified by a management application.
Flashing amber	One flash per second: The hard drive is predicted to fail. ⚠ **WARNING —** Replace the drive as soon as possible.
2. **Activity**	
Off	The hard drive is not configured by a RAID controller or a spare hard drive.
Steady green	The hard drive is online and has no activity.

LED Indicator	Description
Flashing green	Four flashes per second: The hard drive is working and has activity. One flash per second: The hard drive is doing any of the following: • Rebuilding • RAID migration • Strip size migration • Capacity expansion • Logical drive extension • Erasing • Spare part activation

Rear View

Network Status Indicators

The indicators on the rear of the recorder provides the following network connection states:

OOBM port

1 Gbps Ethernet ports

10Gbps SFP+ Ethernet port

1. Link LED
2. Connection Activity LED

LED Indicator	Description
Off	The recorder is not connected to a network.
Link LED — Steady green Connection Activity LED — Flashing green	The recorder is connected to a network at the maximum port speed.
Link LED — Steady green Connection Activity LED — Off	The recorder is connected to a network at the maximum port speed and data is not being sent or received.

LED Indicator	Description
Link LED — Steady yellow Connection Activity LED — Flashing yellow	*10Gbps SFP+ Ethernet port only.* The recorder is connected to a network at the 1Gbps port speed.
Link LED — Steady yellow Connection Activity LED — Off	*10Gbps SFP+ Ethernet port only.* The recorder is connected to a network at the 1Gbps port speed and data is not being sent or received.

UID Status Indicator

For the descriptions of the UID status on the back of the recorder, see the descriptions for the front of the recorder in *UID Status Indicator* on page 27.

Power Status Indicators

The ◎ power button indicator on the back of the recorder provides the following power and system state information:

LED Indicator	Description
Off	The power supply is not connected, power supply failure, the power supply is in standby mode, or the facility power is off.
Steady green	The power supply unit is working.

Limited Warranty

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

For More Information

For additional product documentation and software and firmware upgrades, visit **support.avigilon.com**.

Technical Support

Contact Avigilon Technical Support at **support.avigilon.com/s/contactsupport**.

Product User Guides

- *Windows Upgrade and Recovery Guide for Avigilon Systems* (**link**)
- *ACC Client User Guide* (**link**)
- iLO web interface documentation (**link**)