

# User Guide

## Avigilon Network Video Recorder Series 3

NVR3-VAL-3TB  
NVR3-VAL-6TB  
NVR3-VAL-12TB  
NVR3-VAL-18TB

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PDF-NVR3VAL-B

Revision: 1 - EN

20200406

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# Introduction

The Avigilon Network Video Recorder is preloaded with the Avigilon Control Center software and is configured for maximum performance and reliability. The Network Video Recorder can be easily integrated into any existing Avigilon security system, or act as the base of a new site.

## Before You Start

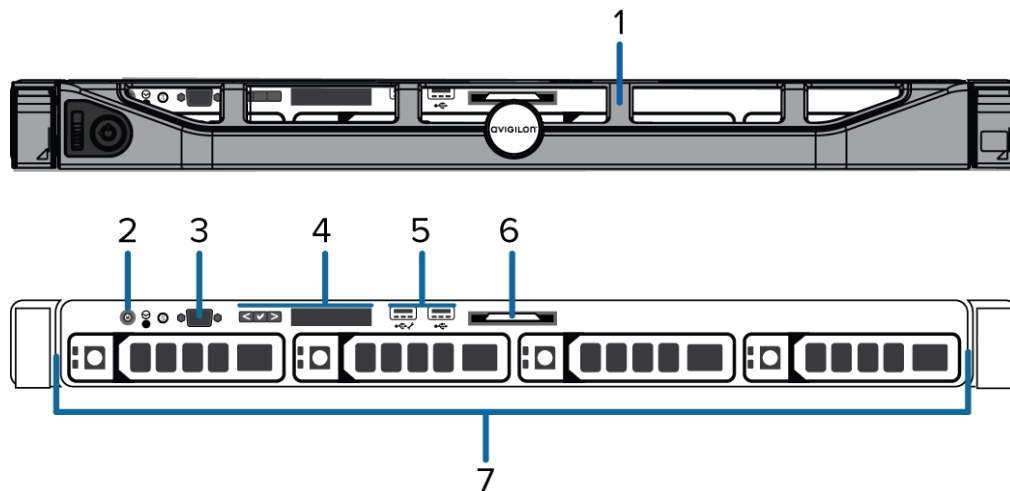
Avigilon recommends the use of an uninterruptible power supply (UPS) system to protect your video surveillance system hardware. A UPS system is used to protect critical equipment from mains supply problems, including spikes, voltage dips, fluctuations and complete power failures using a dedicated battery.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

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

It is recommended that cameras not be connected to the appliance until after the appropriate network configuration has been set up.

## Overview

### Front View



1. **Bezel**

Protects against unauthorized physical access to the hard drives. The bezel must be removed to access the front of the recorder.

2. **Power button**

Controls the power supply to the recorder.

3. **Video connector**

Accepts a VGA monitor connection.

4. **LCD display**

Provides information about system information and error messages. For details about the error messages, see the *Dell Event and Error Messages Reference Guide*.

5. **USB connectors**

Accepts USB connections to external devices.

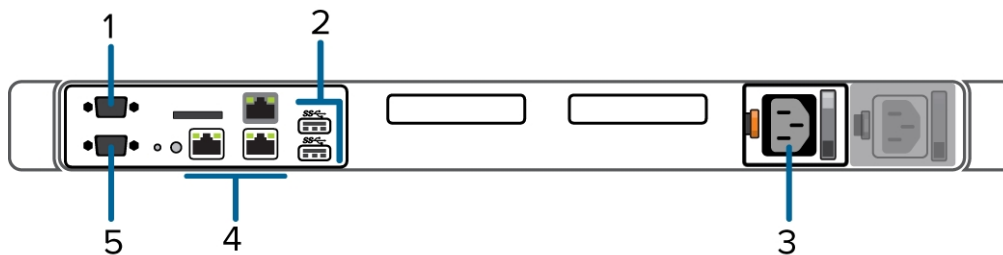
6. **Information tag**

Provides the product service details, MAC addresses and a copy of the Windows license key.

7. **Hard drives**

Provides access to hot-swappable hard drives. There are LED indicators on each hard drive.

## Back View



1. **Serial connector**

Accepts connections to serial devices.

2. **USB connectors**

Accepts USB connections to external devices.

3. **Power supply**

Redundant power supply.

Optional secondary power supply is available (HD-NVR3-VAL-2NDPS-NPC).

4. **1 Gigabit Ethernet ports**

Accepts an Ethernet connection to multiple networks.

## 5. **Video connector**

Accepts a VGA monitor connection.

# Installation

## Package Contents

Ensure the package contains the following:

- Avigilon Network Video Recorder
- Rack sliding rail assembly kit
- Cable management arm assembly kit
- Bezel and key
- Power cable

## Installing the Rack Rails and Cable Management Arm

If the recorder will be kept in a server rack, install the Rack Sliding Rails and the Cable Management Arm 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:** The supplied Rack Sliding Rails are compatible with square and round hole racks.

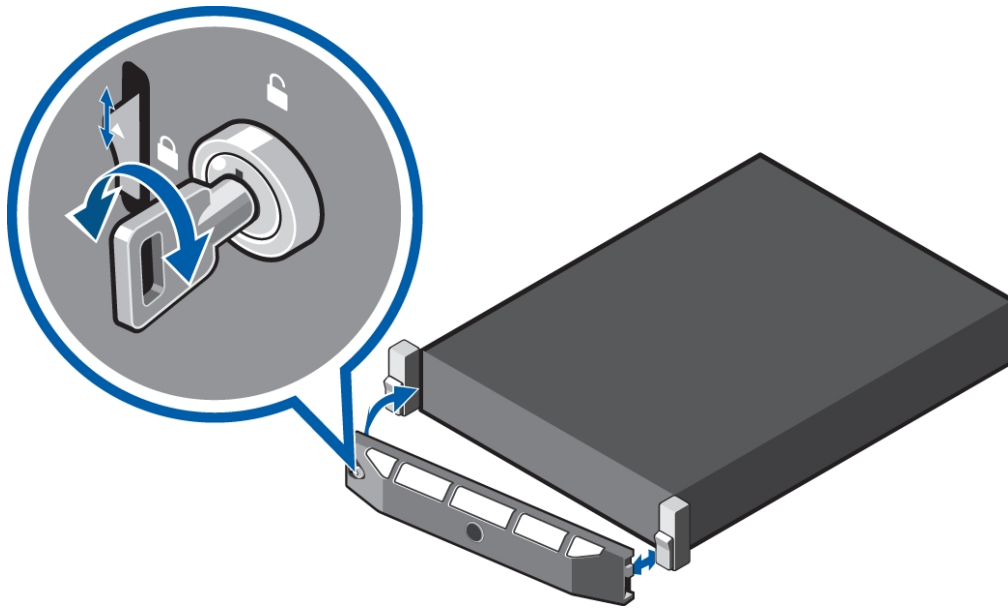
## Connecting Cables

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 using an Ethernet cable.
3. Connect a power cable to the power supply at the back of the recorder.
4. Press the power button on the front of the recorder. Check that the recorder LED indicators display the correct status.

## Installing the Bezel

The bezel can be installed on the front of the recorder to help protect the power button and hard drives against unauthorized access.



1. Slide the right end of the bezel against the right hinge of the recorder.
2. Push the left end of the bezel against the recorder until it clicks into place.
3. Use the provided key to lock the bezel.

## Configuring Windows 10

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

1. On the first screen, the MICROSOFT SOFTWARE LICENSE TERMS and AVIGILON CONTROL CENTER™ SOFTWARE END USER LICENSE AGREEMENT are displayed. Review the terms and click **Accept**.
2. Select **Join a local Active Directory domain**.

**Note:** This prompt appears only 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. Enter a password and password hint for the user name and click **Next**.
5. After a minute, choose the ACC version in use at your site.

You are logged in to the Windows environment. The Avigilon Control Center Admin Tool automatically starts up.

**Note:** If you are performing operating system recovery, the Avigilon Control Center Admin Tool does not automatically start up. For more information about running the local ACC installer, see *Troubleshooting* below.

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

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

## Activating and Configuring ACC Software

- [Initial ACC™ System Setup and Workflow Guide](#)
- [ACC 7 Help Center](#)

For information about cloud-connecting your ACC server, see [Avigilon Cloud Services Support](#).

Printable versions of these guides are available on the Avigilon website:

<https://www.avigilon.com/support/software/>.

## Troubleshooting

### Network Configuration

By default, the Network Video Recorder 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.

### Checking System Health

You can check on the health of the system components in the Site Health in the ACC Client software. See the *Windows Help and Support* files for more information.

# Advanced Features

## Checking System Health

The Server Administrator software is pre-installed on the recorder. The software provides information about the recorder's system operation status, and gives you remote access to the recorder for recovery operations.

If one of the LED indicators on the recorder is flashing an error warning, the Server Administrator will display details about the problem. For more information about the LED indicators, see *LED Indicators* on page 9.

1. Open the Server Administrator.

- To open the Server Administrator locally, double-click the **Server Administrator** shortcut icon on the desktop.
- To open the Server Administrator remotely, open a web browser and enter this address:  
`https://<recorder IP Address>:1311/`.

For example: `https://192.168.1.32:1311/` or `https://localhost:1311/`.

If you are using an intranet connection, your browser may display an error message. Allow the browser to ignore the certificate warnings.

2. If asked to log in, enter the Windows software administrator username and password that was configured for the recorder.
3. On the Server Administrator home page, the health of the system components are displayed in the workspace on the right.

- To see the health of other system components, expand and select a different component from the System Tree on the left.
- The table displayed in the workspace lists system components and their status:



The system component is running normally.



The system component has a non-critical warning.



The system component has a critical failure.



The system component status is unknown.

- To see the details of a system component, select the system component from the workspace.

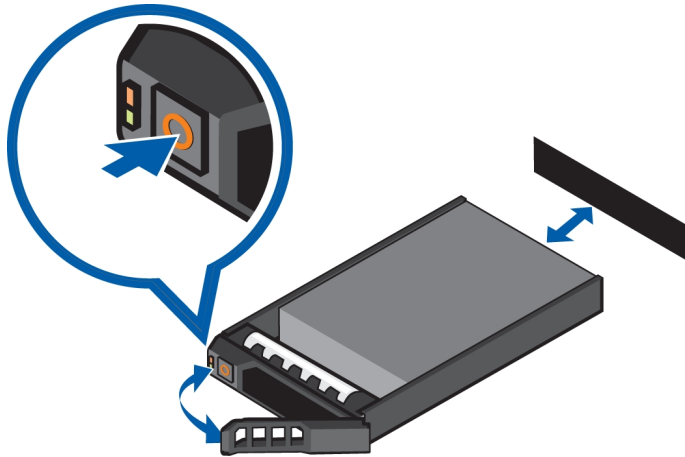
The Server Administrator is also used to customize the Redundant Array of Independent Disks (RAID) settings, assign a hot spare and remotely monitor the system health. For more information about the features in the Server Administrator, see the Help system provided in the software.

# Replacing Hard Drives

The LED indicator flashes green, then orange and then off if it is about to fail. After it has failed, the status indicator flashes orange four times a second. For more information about all the LED status indicators see *Hard Drive RAID Status Indicators* on page 10.

To replace a failed hard drive:

1. Locate the failed hard drive at the front or back of the recorder.



2. Press the release button on the front left of the hard drive.
3. When the handle is released, pull the hard drive out of the recorder.
4. Remove the four screws from the side of the hard drive carrier.
5. Lift the failed hard drive out of the carrier.
6. Insert a new hard drive into the carrier then screw it into place. The hard drive connectors should face the back.
7. When the hard drive is secured in the carrier, insert the hard drive back into the recorder.
8. Once the hard drive is inserted all the way in, push the handle against the hard drive to lock it into place.

The hard drive status indicator slowly flashes green, indicating the recorder has started rebuilding the hard drive. Rebuilding the RAID hard disk array may take several hours. You can verify that the rebuilding has started and monitor progress using the Server Administrator tool. Contact Technical Support if the rebuilding process does not start.

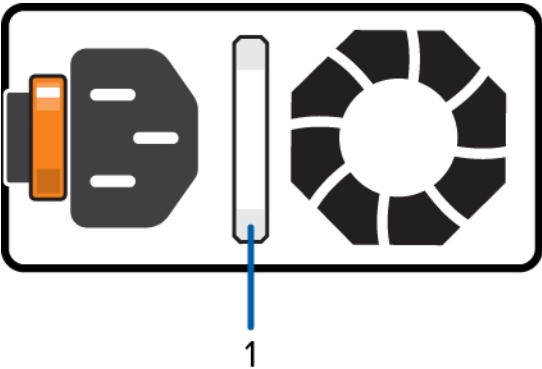
# LED Indicators

The following tables describe what the LEDs on the recorder indicate.

## Power Status Indicators

The power button on the front of the recorder lights up when power is on.

Additional information about the power supply is provided by the power status indicator on the back of the recorder. The following table describes what the LEDs indicate:



**Figure 1:** (1) The power status indicator.

LED Indicator	Description
Off	Power is not connected.
Green	Power is supplied to the recorder.
Flashing green	Firmware update is being applied to the power supply unit.
Flashing green then turns off	The redundant power supply is mismatched. This only occurs if you have a secondary redundant power supply installed.
Flashing orange	There is a problem with the power supply.

## Network Link Status Indicators

When the recorder is connected to the network, the recorder’s connection status LEDs above the Ethernet port display the recorder’s connection status to the network. The following table describes what the LEDs indicate:

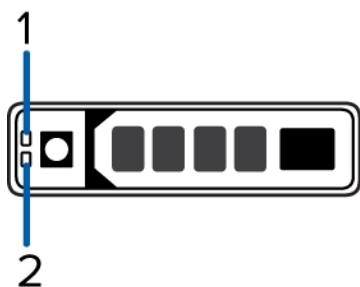


**Figure 2:** (1) Link LED. (2) Connection Status LED.

LED Indicator	Description
<b>Off</b>	The recorder is not connected to a network.
<b>Link LED is green</b>	The recorder is connected to a network at the maximum port speed (1 Gbps or 10 Gbps).
<b>Link LED is orange</b>	The recorder is connected to a network at less than the maximum port speed.
<b>Connection Status LED is blinking green</b>	The recorder is working with other parts of the Avigilon Control Center software.

## Hard Drive RAID Status Indicators

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



**Figure 3:** (1) Status LED. (2) Activity LED.

The Activity LED flashes green when the hard drives are working. The following table describes what the Status LEDs indicate:

LED Indicator	Description
<b>Green</b>	The hard drive is online.
<b>Off</b>	The hard drive is disconnected from the recorder.
<b>Two short green flashes every second</b>	The system is identifying a new hard drive, or preparing a hard drive for removal.
<b>Flashes green, orange then off</b>	The hard drive is predicted to fail.
<b>Four short orange flashes per second</b>	The hard drive has failed.
<b>Flashes green slowly</b>	The hard drive is rebuilding.

LED Indicator	Description
<b>Blinks green for three seconds, orange for three seconds and off for six seconds</b>	The hard drive rebuild has been aborted.

## 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/).