Avid NEXIS® Setup and Maintenance Guide

Version 2025.2.0

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Contents

Using This Guide 7

Symbols and Conventions 8

If You Need Help 9

Accessing the Online Documentation 9

Avid Training Services 9

1 Avid NEXIS System Overview 10

System Director Functionality 10

Avid NEXIS Models 11

Controllers and I/O Modules 12

Upgrading Controllers to Version 2024.5.0 or Higher 13

Avid NEXIS F-Series Controller Features and Identification 13

I/O Module Features and Functionality 15

Avid NEXIS E-Series Controllers and Identification 16

Controller Functionality and Restrictions 18

Controller (Agent) Password 19

Single vs Dual Controllers 19

Front Views 19

2U and 4U Control Panel 19

5U Chassis Status and Control Panels 20

5U Sideplane and Drive Drawer Status Panel (Four Panels) 20

5U Engine Status and Control Panel 21

Rear Views 21

Serial Number Location 21

2U Chassis Rear Details 22

4U Chassis Rear Details 22

5U Chassis Rear Details 23

Media Pack and System Drives 24

Drive Labels 25

Drive Types and Sizes 25

Default Location of System Drives 26

Chassis Drive Numbering 26
System Drive Numbering for the System Director Appliance 26
Drive Numbering for 2U (12-Drive) Storage Chassis (Except Avid NEXIS | F2X) 26
Drive Numbering for Avid NEXIS | F2X 27
Drive Numbering for Avid NEXIS | F2 SSD 27
Drive Numbering for All 4U Chassis 27
Drive Numbering for All 5U Chassis 28
Power Supplies and Fans 28
ECO Power Supply Units 29
764W Power Supply Features 30
580W Power Supply Features 30
2200W Power Supply Features 31
Fan Modules (5U Only) 32
2 Connecting the Equipment 34
Rack Mounting Guidelines and Requirements 34
Rack-Mounting the Equipment 34
Installing Media Packs in 2U and 4U Engines 38
Installing Media Packs in 5U Chassis 39
Connecting the Equipment to Power 39
3 Installing the Software and Setting up the Avid NEXIS System 41
System Setup Information 41
Understanding the Shared Name Space 42
Understanding System Licenses 44
Registering the System and Downloading the Avid NEXIS Software 44
Configuring the Computer's IP Address 45
Installing the Software 48
Configuring the Engine or SDA+ 49
Activating a Modular License 52
Using Link Aggregation (LACP) 53
Connecting the Equipment to a Switch 54
Dual LACP Connections 54

4 Adding and Replacing Hardware 58
Collecting Logs for Customer Care 58
Understanding Hardware Faults 58
Adding an Engine to a System 59
Adding an Avid NEXIS | F2X (Expansion Chassis) to a System 60
Adding Media Packs to an Engine 61
About Drive Failures 62
Identifying the Slot Number for a Failing or Failed Drive 63
Replacing a Drive 63
Adding a Redundant Controller 66
Version Incompatibility with Replacement Controllers and Avid NEXIS version 2024.5.0 67
Dual Controller Connection Diagrams 68
About Controller Failures 70
Replacing a Controller 70
Replacing an I/O Module 71
Power Supply Failures 72
Replacing a Power Supply (2U and 4U) 72
Replacing a Power Supply (5U) 72
Replacing a Fan Module (5U only) 73
Shutting Down the System 74
Restarting the System 75
Removing or Replacing a Chassis 75
5 Specifications and Notices 78
Electrical Requirements 78
Uninterruptible Power Supply (UPS) 78
Physical Specifications 78
Electrical and Power 79
Altitude and Temperature 80
Shock and Vibration 81
Acoustics 81
Approvals 82

6 Safety and Regulatory Information 84
Symbols 84
Product Safety Warning 84
Important Safety Instructions 84
Rack-Mount Safety Instructions 85
LED Safety Notices 86
Environmental Compliance 86

Using This Guide

The Avid NEXIS® software-defined storage system provides a high-performance distributed file system that uses high-capacity shared media storage for workgroups of connected devices. This guide describes how to manage your storage system.

Unless noted otherwise, the material in this document applies to the Windows®, macOS®, and Linux operating systems. The majority of screen shots in this document were captured on a Windows system, but the information applies to all operating systems. Where differences exist, information on the differences is provided.

The documentation describes the features and hardware of all models. Your system might not contain certain features and hardware that are covered in this guide.

Revision History

Date	Version	Description of Changes
February 2025	2025.2.0	Additional drive size support for Avid NEXIS F2/F2X, F5, and F5 | NL.
November 2024	All	Revised the rack mounting spacing specification.
July 2024	All	Added a note to open a new web browser tab for the Agent when changing the configuration of an engine.
May 2024	2024.5.0 and higher	Added steps for replacing a failed Controller or installing a redundant Controller in systems running 2024.5.0; sub-component incompatibility
February 2024	2023.8.0 and higher	Updated Interface Speeds supported for Avid NEXIS | F2 SSD Engine (see "Avid NEXIS F-Series Controller Features and Identification" on page 13)
January 2024	2023.8.0 and higher	Strengthened text about switch connections for High Performance Media Packs in paired F2/F2X setups.
November 2023	2023.8.0 and higher	Added notes about installing redundant Controllers. Restored Dual Controller Diagrams.
September 2023	2023.8.0 and higher	Updated Agent and Management Console password behavior. Added note about license impact to Replacing a Chassis.
August 2023	2023.7.0	Post-release updates and corrections
July 2023	2023.7.0	Updated for Modular Licensing
May 2023	2023.3.0	Clarified that Avid NEXIS | F5 and Avid NEXIS | F5 NL ship with two (2) spare media drives
March 2023	2023.3.0	Introduced Avid NEXIS | F2 SSD Engine; added new “ECO” Power Supply Units
December 2022	2022.12.0	Updated redemption/registration process
September 2022	2022.9.0	Clarified Controller descriptions
July 2022	2022.5.0	Introduced Avid NEXIS | F Series
August 2021	All	Corrected Media Pack drive sizes

Date	Version	Description of Changes
March 2021	2021.3.0	Updated system drive capacities
July 2020	2020.5.0	Added Avid NEXIS | FS description, cautions when adding Engines to an existing system . Some document restructuring.
May 2020	2020.5.0	Avid NEXIS | All-Mirror support
April 2020	2020.3.0	USM version 1.37 or 1.37a factory installed on G2 labeled Controllers
March 2020	2020.3.0	Updated specs for Avid NEXIS E5 chassis and change to default Agent password
12/19/2019	(Update)	Strengthened caution to lock all E5 drives
10/29/2019	2019.10.0	Added new Controller types (USM 1.37 and 32GB memory)
06/30/2019	2019.6.0	Additional drive size support for Avid NEXIS E2 | SSD

Symbols and Conventions

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
	A note provides important related information, reminders, recommendations, and strong suggestions.
	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
	A user tip provides a helpful hint that can aid users in getting the most from their system.
	A shortcut shows the user keyboard or mouse shortcuts for a procedure or command.
›	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File › Import means to open the File menu and then select the Import command.
	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
(Windows), (Windows only), (macOS), or (macOS only)	This text indicates that the information applies only to the specified operating system, either Windows or macOS.
Bold font	Bold font is primarily used in task instructions to identify user interface items and keyboard sequences.
Italic font	Italic font is used to emphasize certain words and to indicate variables.

Symbol or Convention	Meaning or Action
`Courier Bold font`	Courier Bold font identifies text that you type.
Ctrl+key or mouse action	Press and hold the first key while you press the last key or perform the mouse action. For example, Command+Option+C or Ctrl+drag.
|	The pipe character is used in some Avid product names, such as MediaCentral | Cloud UX. In this document, the pipe is used in product names when they are in headings or at their first use in text.

If You Need Help

If you are having trouble using your Avid product:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.
2. Check the latest information that might have become available after the documentation was published. Always check online for the most up-to-date release notes or ReadMe because the online version is updated whenever new information becomes available. To view the online version, visit the Avid NEXIS Documentation available on the Avid Knowledge Base.
3. Check the documentation that came with your Avid application or your hardware for maintenance or hardware-related issues.
4. Visit the Avid Online Support at www.avid.com/support. Online services are available 24 hours per day, 7 days per week. Search the Knowledge Base to find answers, to view error messages, to access troubleshooting tips, to download upgrades, and to read or join online message-board discussions.

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1 Avid NEXIS System Overview

Avid NEXIS is a shared-storage solution for acquisition-, creative-, distribution-, and archive media workflows. Avid network storage systems are built for media and entertainment. They enable multiple clients to share, capture, play, and edit video and audio media.

An Avid NEXIS system consists of:

- One or more *Engines* (a chassis that contains *Media Packs* and one or two *Controllers*)
- Optionally, one or more *Expansion Chassis* (a chassis that contains a Media Pack and two *I/O modules*, but no Controllers)
- Depending on the configuration, a *System Director Appliance* (a chassis that contains no drives for media storage, but has one or two Controllers and manages the entire configuration)

The *System Director* is a process that runs on one Controller, in either an Engine or the System Director Appliance, depending on your configuration, and provides the management functionality for the entire configuration through the *Management Console*, an HTML-5 user interface. For more information, see "System Director Functionality" below.

The Avid NEXIS Engines, Expansion Chassis, and the System Director Appliance are rack-mountable units housing the other system components (Media Packs, Controllers, and power supplies). If a component fails, the Avid NEXIS shared-storage system is designed to remain operational while you replace it.

Data passes between the Engine and clients through a switch connected to the Engines (and System Director Appliance if applicable) with one or more Ethernet connections. These connections provide clients access to the data on the media drives.

Avid NEXIS uses a proprietary file system, which is scalable to support every media production team from individuals to the largest broadcast enterprises. As your storage needs grow, you can add to your configuration in the same file system, seamlessly combining all the storage into one centrally-managed system.

This chapter provides an overview of the Avid NEXIS system and the basic function of each component. Other chapters in this guide describe how to install the system in a rack, connect the power, Ethernet, and SAS cables as applicable, and configure the system.

System Director Functionality

The System Director is a process or service that manages and maintains the Avid NEXIS file system.

In any Avid NEXIS configuration, there is only one System Director, which runs on one Controller, either in an Engine (and is called an *embedded System Director*) or in a System Director Appliance (SDA), which is sometimes called an *external System Director*.

The System Director Appliance (models Avid NEXIS | SDA and Avid NEXIS | SDA+) is a separate 2U chassis with its own power supplies and system drives. It runs the System Director service for the whole configuration and provides no media storage.

A System Director Appliance is required for any configuration that will use Media Mirroring (also called Engine Protection; see the Avid NEXIS Administration Guide for more information), and also any configuration that includes or consists of:

- More than four Media Packs in the same shared-storage system (in any combination of 2U Engines, Expansion chassis, and 4U Engines)
- Any 5U chassis

- Avid NEXIS All-Mirror Engines

The System Director Appliance cannot be used with Avid NEXIS | PRO 40TB or Avid NEXIS | PRO+ systems.

In a configuration with no System Director Appliance, the first Engine that you configure runs the System Director for the entire system. Otherwise the System Director service runs on the System Director Appliance.

If the Engine or System Director Appliance has two Controllers, the System Director service can switch over to run on the other Controller in case of a failure. However, the System Director service never moves to a different Engine, or between an Engine and a System Director Appliance.

The System Director manages the metadata by storing directory information and file attributes, and provides:

- A location to coordinate file access modes (read/write), file locking, range locking, performance data collection, logging, file lookup, and directory change tracking for client systems.
- The identity of all connected storage systems
- Information about the drives, power, cooling and Controllers in the configuration
- Names of workspaces
- Lists of users and groups within the system

Client data (media files) is stored on the Media Packs (drives) within one or more Engines (and Expansion Chassis, if applicable). System Director metadata is mirrored on the system drives in the Engine or in the System Director Appliance, wherever the System Director is running.

System Directors, workgroup servers, and clients must all be synchronized with a common time of day. For information on setting the Network Time Protocol (NTP), see "Using NTP to Set System Time" on page 43.

Avid NEXIS Models

The following table lists current and legacy models. Also see the Avid NEXIS ReadMe for system configuration limits.

Model	Type	Rack Units	Supports Dual Controllers? (See Notes)	Media Packs (10 drives each)
Avid NEXIS | PRO+	Engine	2U	N	1
Avid NEXIS | SDA+	System Director Appliance	2U	Y	N/A
Avid NEXIS | F2	Engine	2U	Y	1
Avid NEXIS | F2X	Expansion Chassis	2U	N/A	1 plus 2 spare drives (optional)
Avid NEXIS | F2 SSD	Engine	2U	Y	2 plus 2 spare drives (optional)
Avid NEXIS | F5	Engine	5U	Y	4-8 plus two spare drives (included)
Avid NEXIS | F5 NL	Engine	5U	Y	4-8 plus two spare drives (included)
----------Legacy Models----------				
Avid NEXIS | PRO	Engine	2U	N	1

Model	Type	Rack Units	Supports Dual Controllers? (See Notes)	Media Packs (10 drives each)
40TB				
Avid NEXIS | SDA	System Director Appliance	2U	Y	N/A
Avid NEXIS | E2	Engine	2U	Y	1
Avid NEXIS | E2 All-Mirror	Engine	2U	Y	1
Avid NEXIS | E2 SSD	Engine	2U	N	1
Avid NEXIS | E4	Engine	4U	Y	1-2 plus two spare drives (optional)
Avid NEXIS | E4 All-Mirror	Engine	4U	Y	1-2 plus two spare drives (optional)
Avid NEXIS | E5	Engine	5U	Y	4-8 plus two spare drives (optional)
Avid NEXIS | E5 All-Mirror	Engine	5U	Y	4-8 plus two spare drives (optional)
Avid NEXIS | E5 NL	Engine	5U	Y	4-8 plus two spare drives (optional)

Notes:

- An Avid NEXIS | F2X Expansion chassis must be paired with an Avid NEXIS | F2 Engine.
- If supported, redundant Controllers must be the same type.
- In 2U models that support redundant Controllers, the second Controller is always installed upside-down in the bottom slot.
- In 4U models, the second Controller is in the third slot (slot 2).
- In 5U models, the second Controller is in the right slot.
- For Media Pack capacities, see "Media Pack and System Drives" on page 24.

Controllers and I/O Modules

Depending on your Avid NEXIS model, the Engine or System Director Appliance supports one or two Controllers, or two I/O modules for Avid NEXIS | F2X.

You can optionally order and install a redundant Controller for certain Avid NEXIS models. Redundant Controllers are not factory installed.

Both Controllers in an Engine or a System Director Appliance must be the same type, with the same label.

In Avid NEXIS versions prior to v2021.3.0, after the system completes its boot cycle, all LEDs on the back of the Controller remain on. In Avid NEXIS version v2021.3.0 and later, after the boot cycle all LEDs on the back of the Controller turn off.

Upgrading Controllers to Version 2024.5.0 or Higher

Normally, redundant and replacement Controllers can be installed in an Avid NEXIS Engine with no disruption. However, Avid NEXIS version 2024.5.0 is incompatible with the factory-installed software on Controllers and requires a maintenance window for replacing a failed Controller or adding a redundant one. See "Version Incompatibility with Replacement Controllers and Avid NEXIS version 2024.5.0" on page 67 for more information.

Avid NEXIS F-Series Controller Features and Identification

The following table lists the Controllers that are supported in the F-Series models, including the PRO+ and SDA+.

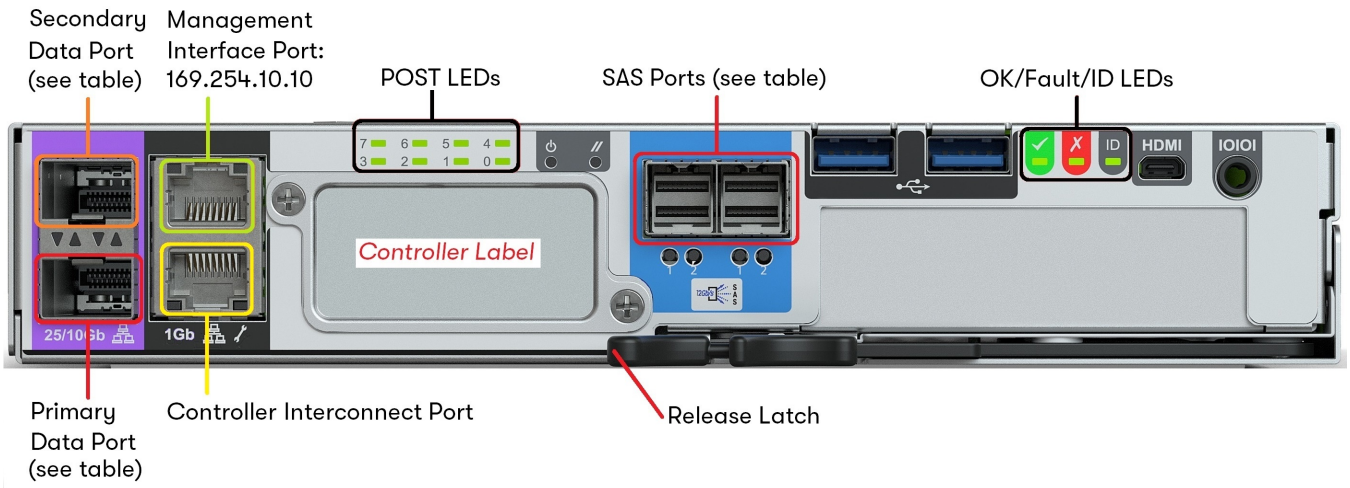
Controller Label	Interface Speed	Used In
9900-74191-00 **SBB-SI-128-S**	2x10/25GbE	Avid NEXIS | SDA+
9900-74189-00 **SBB-BR-32-S**	2x10/25GbE 1x10/25GbE	Avid NEXIS | F2 Avid NEXIS | PRO+ *In the PRO+ the Controller is installed upside-down in the bottom slot.*
9900-74193-00 **SBB-GO-128-10Gb**	2x10GbE only	Avid NEXIS | F5 NL
9900-74226-00 **SBB-GO-128-U**	2x100GbE (full qualification) Can auto-negotiate to 2x40GbE or 2x50GbE	Avid NEXIS | F2 SSD
9900-74192-00 **SBB-GO-128-H**	2x40/50GbE	Avid NEXIS | F5

F-Series Controller Features and LEDs

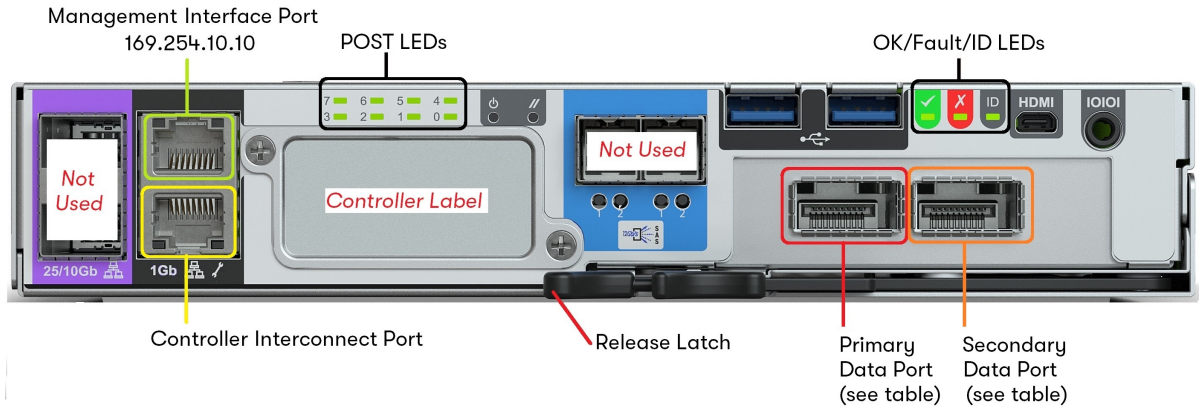
Controller connectors and ports, and the LED colors and flash patterns are described in the following figures and tables.

Features that are not identified in the figures and tables are not used in the Avid NEXIS implementation. Do not connect anything to unidentified ports.

Avid NEXIS F-Series 10/25GbE Controller



Avid NEXIS F-Series 2x100GbE Controller and Avid NEXIS F-Series 40/50GbE Controller



[Avid NEXIS F-Series Controller Features]

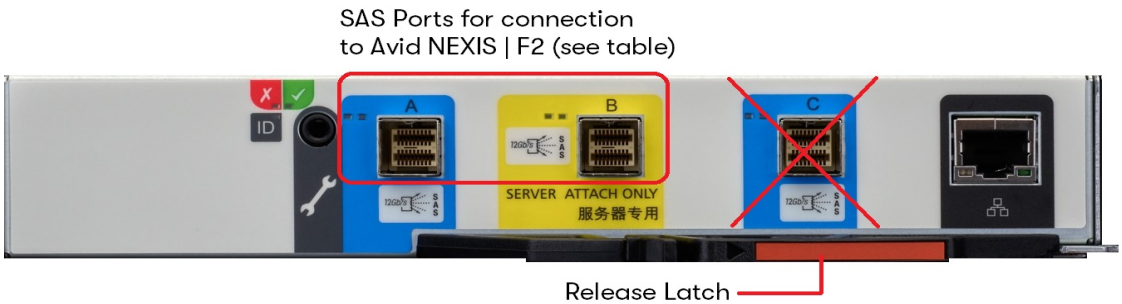
Feature	Description
Management Interface port	For connection to a laptop or other computer to install the Avid NEXIS software and initially configure the system. **Default IP address is 169.254.10.10.** ⚠ **Do not use the Management Interface port after initial configuration. It is not intended for system I/O.** Right side LEDs: • Steady green: Link is active • Flashing green: Network activity • Left side—Network speed LEDs: • Yellow: 1000Mb/s • Green: 100Mb/s • Off: 10Mb/s
Controller Interconnect port	For connecting redundant Controllers in the Engine. See "Adding a Redundant Controller" on page 66.
Power/OK, Fault,	Power/OK:

Feature	Description
and ID LEDs	• Steady green when the Controller is operating correctly. • Flashing green indicates a Controller error. • Fault: Amber when the Controller has a fault. • ID: Blue when the Controller is being identified.
POST (Power On Self-Test) LEDs	Shows the boot progress of the Controller. If the Controller fails to boot, the LEDs show the stage in which the error occurred.
SAS ports	Used only in the Avid NEXIS | F2 to connect one or both Controllers to the SAS ports on the I/O Modules in an Avid NEXIS | F2X. See "Rack-Mounting the Equipment" on page 34 for how to connect the cables.
Controller label	Indicates the Controller type, which specifies in which Engine it can be used. See "Controllers and I/O Modules" on page 12 for more information.
Release Latch	Disconnects the Controller from the backplane for removal from the Engine (see "About Controller Failures" on page 70).
Data ports	Connects the Engine or System Director Appliance to a network switch (see "Connecting the Equipment to a Switch" on page 54). LED states: • Flashes green for link/activity • Flashes amber for fault **10/25GbE Controllers** *Not used in Avid NEXIS | F5 and Avid NEXIS | F2 SSD.* *In Avid NEXIS | F5 NL, only the 10GbE connection is supported. The system will not run if connected to a 25GbE switch.* • For a single switch connection, use the primary port (closest to the 25/10Gb label). **Be aware of the Controller orientation in the Engine: the primary port is on the bottom when installed right-side up, but on the top when installed upside-down.** • For link aggregation (LACP, or NIC teaming) use both the primary and secondary ports. **40/50GbE Controllers and 2x100GbE Controllers:** • For a single switch connection, use the primary port (closest to the SAS ports). **Be aware of the Controller orientation in the Engine: the primary port is on the left when installed right-side up, but on the right when installed upside-down.** • For link aggregation (LACP, or NIC teaming) use both the primary and secondary ports.

I/O Module Features and Functionality

The Avid NEXIS | F2X has two I/O modules that connect to an Avid NEXIS | F2. The I/O modules provide data connection to the Controllers in an Avid NEXIS | F2, which manages both chassis. The I/O modules do not support direct switch connections.

IOM Label	Interface Speed	Used In
9900-74187-00 **IOM-F2X**	NA	Avid NEXIS | F2X



Avid NEXIS F2X IO Module Features

Feature	Description
SAS ports A and B	Connects the expansion chassis to one Controller in an Avid NEXIS | F2. If the Avid NEXIS | F2 has only one Controller, connect the cables only to the top I/O module in the Avid NEXIS | F2X. If the Avid NEXIS | F2 has redundant Controllers, connect the **top Controller to the top I/O module**, and connect the **bottom Controller to the bottom I/O module**. Do not connect one Controller to both I/O modules, and do not cross connect two Controllers to both I/O modules.
SAS port C	Not used.
Release Latch	Disconnects the I/O module from the backplane for removal from the chassis (see "Replacing an I/O Module" on page 71).

Avid NEXIS E-Series Controllers and Identification

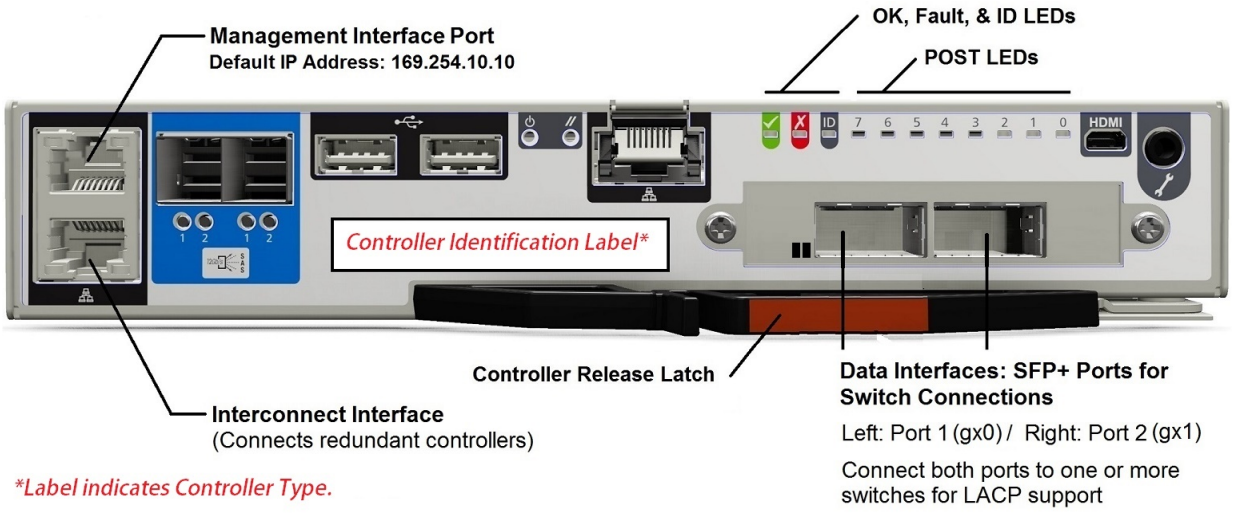
The following table lists the Controllers that are supported in the legacy E-Series models, including the PRO and SDA.

Controller Label	Notes	Used In
Controller 10	2x10GbE	Avid NEXIS | E2
	1x10GbE (PRO 40 TB)	Avid NEXIS | E2 All-Mirror
		Avid NEXIS | PRO 40TB
		(In PRO 40, Controller is installed upside-down in the bottom slot.)
Controller PRO 40 G2	1x10GbE USM version 1.37/1.37a factory installed	Avid NEXIS | PRO 40TB *(Controller is installed upside-down in the bottom slot.)*
Avid NEXIS PRO 40/E2, **Avid NEXIS PRO 40/E2 G2,**	2x10GbE USM version 1.37/1.37a factory installed	Avid NEXIS | E2 Avid NEXIS | E2 All-Mirror

Controller Label	Notes	Used In
Controller E2 G2		Avid NEXIS | PRO 40TB
Avid NEXIS | E2 SSD Controller	2x40GbE	Avid NEXIS | E2 SSD *(Controller is installed upside-down in the bottom slot.)*
Avid NEXIS | E2 SSDG2	2x40GbE USM version 1.37/1.37a factory installed	Avid NEXIS | E2 SSD *(Controller is installed upside-down in the bottom slot.)*
Controller 20/SDA	2x10GbE	Avid NEXIS | E4 Avid NEXIS | E4 All-Mirror Avid NEXIS | SDA
Avid NEXIS | E4 G2/SDA G2	2x10GbE USM version 1.37/1.37a factory installed	Avid NEXIS | E4 Avid NEXIS | E4 All-Mirror Avid NEXIS | SDA
Controller 80	2x40GbE	Avid NEXIS | E5 Avid NEXIS | E5 All-Mirror
Avid NEXIS | E5 G2	2x40GbE USM version 1.37/1.37a factory installed	Avid NEXIS | E5 Avid NEXIS | E5 All-Mirror
Controller E5 NL	2x10GbE	Avid NEXIS | E5 NL
Avid NEXIS | E5 NL G2	2x10GbE USM version 1.37/1.37a factory installed	Avid NEXIS | E5 NL

E-Series Controller Features and LEDs

The only visible difference between the Controllers is the identification label text.



E-Series Controller Features

Feature	Description
Management Interface port, Interconnect Interface port	The Management Interface port is used **ONLY** to connect to a laptop or other computer to install the software and initially configure the system. ⚠ **Do not use the Management Interface port after initial configuration. It is not intended for system I/O.** **Default IP address is 169.254.10.10.** The port has the following LEDs. Right side: • Steady green: Link is active • Flashing green: Network activity Left side—Network speed: • Yellow: 1000Mb/s • Green: 100Mb/s • Off: 10Mb/s The Interconnect Interface port is used to connect two Controllers. See "Adding a Redundant Controller" on page 66.
Power/OK, Fault, and ID LEDs	Power/OK: Green when the Controller is operating correctly. Flashing green indicates a Controller error. Fault: Amber when the Controller has a fault. ID: Blue when the Controller is being identified.
POST LEDs	Shows the boot progress of the Controller. If the Controller fails to boot, the LEDs show the stage in which the error occurred.
Controller identification label	Indicates the Controller type, which specifies in which Engine it can be used. See "Controllers and I/O Modules" on page 12 for more information.
Controller Release Latch	Disconnects the Controller from the backplane for removal from the Engine (see "About Controller Failures" on page 70).
Data Interface ports (SFP+)	Connects the Engine or System Director Appliance to a network switch (see "Connecting the Equipment to a Switch" on page 54). The Avid NEXIS | E5 NLcomes with QSFP to SFP+ adapters for these ports and supports connection only to a 10GbE switch. For a single-port connection to a switch, use the left port (gx0). If using link aggregation (NIC teaming), connect both ports (gx0 and gx1) to one or more switches. LED states: Flashes green for link/activity, amber for fault.

Controller Functionality and Restrictions

The Controller provides the software management functionality, in some cases including the System Director (in Engines with an embedded System Director and on the System Director Appliance).

The Controller is turned on when the power supplies are on.

Controller (Agent) Password

Each Controller runs its own Agent. Effective with Controllers manufactured after April 1, 2020, the default Agent password for a Controller is the last eight characters of the serial number, which is printed on a label on the top of the Controller housing. For example, a Controller with serial number RMS1013034G085N has a default Agent password of 034G085N. To see the serial number, you must partially remove the Controller from the Engine. See "Replacing a Controller" on page 70 for how to remove a Controller.

The serial number-based default password replaces the previous default Agent password of **`se-admin`**. Use the new default Agent password when con figuring a new Engine (see "Installing the Software and Setting up the Avid NEXIS System" on page 41).

Single vs Dual Controllers

Some Avid NEXIS models support only one Controller, and others support two, for high availability.

If two Controllers are present, they are both active, and divide the system services between them (unless one fails). There is no concept of an Active and Standby Controller.

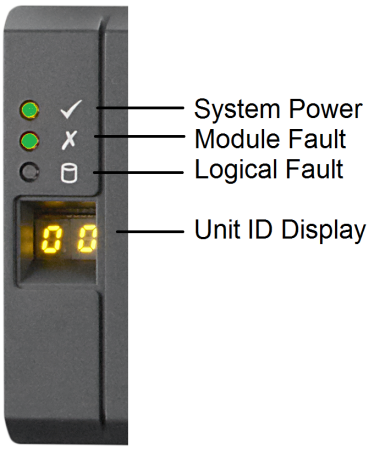
If one Controller fails, the System Director service (and other services) can switch over to the other one while the system keeps running. However, switchover does not occur if the network connection to a Controller fails. Switchover occurs only between Controllers in the same physical chassis, never between Controllers in different chassis.

Front Views

Every Avid NEXIS model has a control panel on the front, with LEDs that indicate its status. In the 2U and 4U models, the drives are accessible from the front, behind a removable bezel.

2U and 4U Control Panel

The following figure shows the control panel on the left side of the chassis on all 2U and 4U models, including the PRO, PRO+, and System Director Appliances.



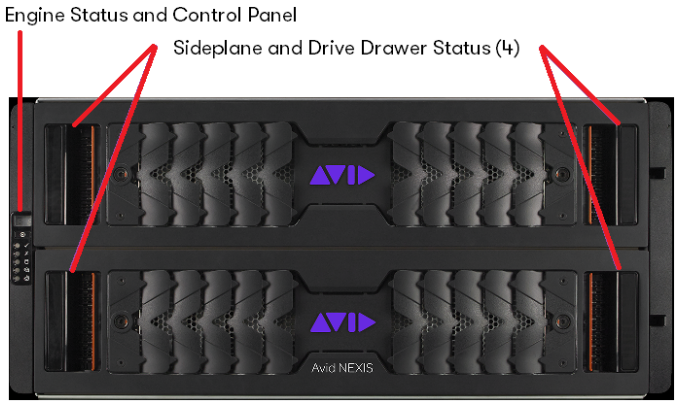
2U and 4U Engines: Common Control Panel (Including Expansion Chassis)

Feature or LED	Color and Status
System Power	Green — system is on (operational) Amber — system is in standby mode (not operational)
Module Fault	Amber — system hardware fault (another LED on the faulty component may also be lit)

Feature or LED	Color and Status
Logical Fault	Amber — something other than the enclosure management system (usually a drive) fails
Unit ID Display	Enclosure identification number (optional; useful with multiple-enclosure systems)

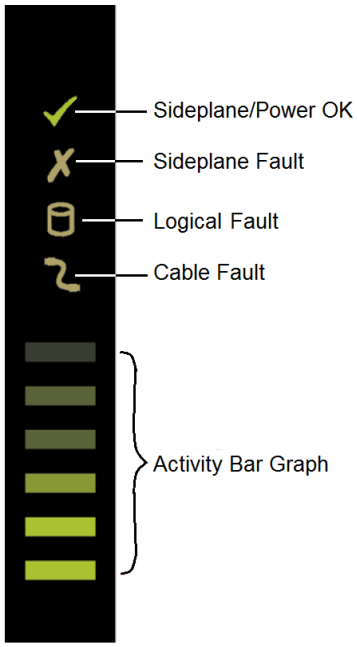
5U Chassis Status and Control Panels

The 5U Engine has a bezel that does not need to be removed to access any components. The control panels and status panels on the front are visible with the bezel in place.



5U Sideplane and Drive Drawer Status Panel (Four Panels)

The sideplane and drive drawer status panels indicate the health of the drives, and show drive activity.



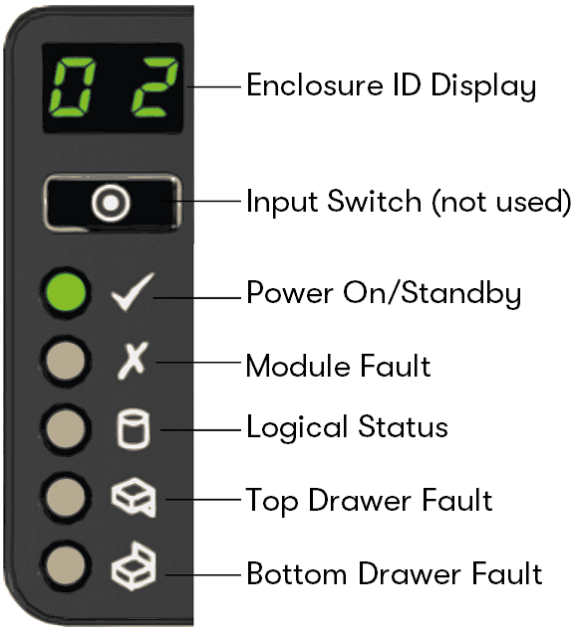
5U Engines: Common Sideplane and Drive Status Panels

Feature or LED	Color and Status
Sideplane/Power OK	Green — Sideplane card is on and operational
Sideplane Fault	Amber — Drive has failed
Logical Fault	Flashing amber — Failed drive in one or more RAID sets

Feature or LED	Color and Status
Cable Fault	Amber — Cable failure between the drawer and the back of the enclosure
Activity Bar Graph	Shows the amount of data I/O from zero segments lit (no I/O) to all six segments lit (maximum I/O)

5U Engine Status and Control Panel

The Engine Status panel displays the overall health of the system and indicates the location of a failed component.



5U Engines: Common Status and Control Panel

Feature or LED	Color and Status
Enclosure ID Display	Displays the enclosure identification number (optional; helps you locate the engine in a high-density rack or cabinet populated with several other similar systems).
Power On/Standby	Green — system is on (operational) Amber — system is in standby mode (not operational)
Module Fault	Amber — system hardware fault (another LED will be lit also)
Logical Status	Amber — Component has failed
Top Drawer Fault, Bottom Drawer Fault	Amber — Indicates the location (drawer) of a failed component

Rear Views

The power supply units and fans, power/cooling modules, Controllers, or IO Modules are in the rear of the chassis.

Serial Number Location

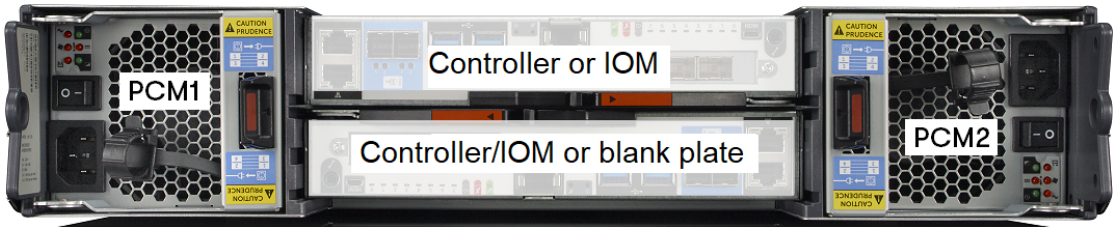
On all Avid NEXIS models, the chassis serial number is printed on a label attached to the left rear chassis mounting ear. The following figure shows the location of the serial number label on an Avid NEXIS | E4.



2U Chassis Rear Details

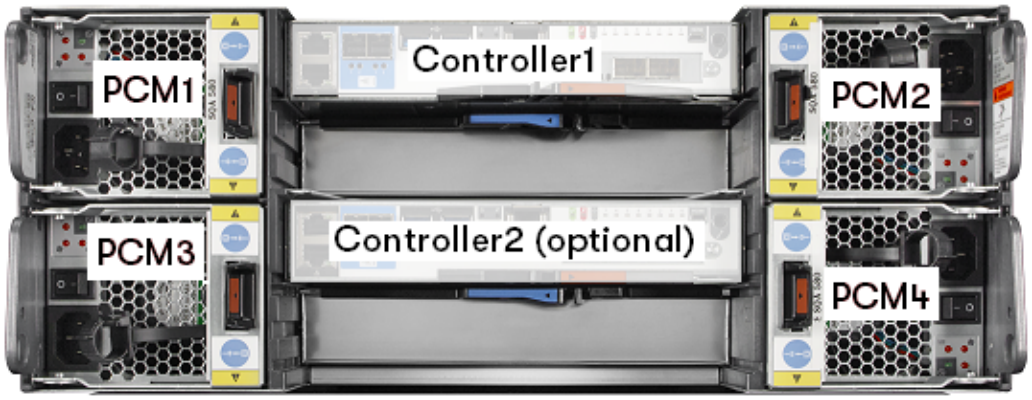
The rear of the 2U chassis provides access to the Controllers (or I/O modules) and power/cooling modules (PCMs).

The following figure shows a typical 2U chassis. The Avid NEXIS | F2X has two I/O modules in place of Controllers. The Controller details, number of Controllers supported, and their orientation depend on your model; see "Controllers and I/O Modules" on page 12.



4U Chassis Rear Details

The rear of the 4U chassis provides access to the Controllers and the power/cooling modules (PCMs). If you use a redundant Controller, it must be installed in the third slot from the top, as shown.

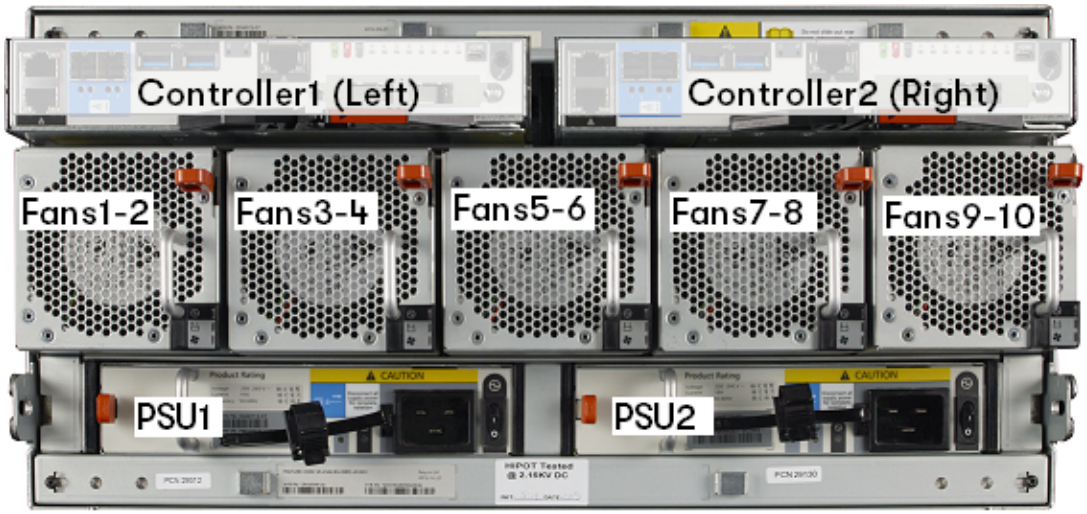


Rear View Features: 2U and 4U Chassis

Component	Notes
Power/Cooling Modules (PCM)	2U Engines: Dual 760W PCMs, numbered 1 (left) and 2 (right). Avid NEXIS | F2X: Dual 580W PCMs, numbered 1 (left) and 2 (right). 4U Chassis: Four 580W PCMs, numbered 1 (top left), 2 (top right), 3 (bottom left) and 4 (bottom right).
Storage Controllers	2U Chassis: Controller 1 can be in top or bottom slot. Controller 2 (if supported) is always in the bottom slot, upside down. 4U Chassis: Controller 1 is always in top slot. Controller 2 (optional) is in slot 2 (third from top).

5U Chassis Rear Details

The rear of the 5U chassis provides access to the Controllers, power supply units (PSUs), and fan modules. In a single-Controller configuration, the Controller can be in either slot but Avid recommends keeping it in the left-hand slot (Controller 1 in the figure below).



Rear View Features: 5U Engines

Component	Notes
Controllers	If only one Controller is present, it is typically in the left slot. Controllers are identified in error and status messages as 1 (left) and 2 (right). Avid NEXIS | E5 NL comes with a QSFP to SFP+ adapter to connect 10GbE SFP+ optics or cables to a switch. Avid NEXIS | F5 NL uses the built-in 10/25GbE ports and does not need a secondary interface card.
Fans	Five fan modules, each containing two fans. In the Management Console, each fan (1-10) is listed separately.
PSUs	Power supply units, identified in error and status messages as 1 (left) and 2 (right)

Media Pack and System Drives

A Media Pack is a set of 10 drives, all of which are typically the same capacity and type. The following table lists the Media Pack drives previously or currently supported in Avid NEXIS Engines.

All System Director Appliances and Engines contain two SSD system drives. The system drives store metadata, startup files, and other system files. An Engine or System Director Appliance can run with one failed system drive but Avid recommends replacing it as soon as possible.

The Avid NEXIS | F2X is not an Engine because it contains no Controllers and no system drives.

Some drive capacities (in italics) are no longer sold for new systems, and may not be available from Avid to replace a failed drive. For more information, see https://kb.avid.com/articles/en_US/faq/End-of-support-dates.

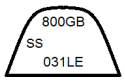
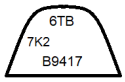
Avid NEXIS Model	Media Pack Capacity	System Drive Capacity
Avid NEXIS | SDA+	N/A	800GB
Avid NEXIS | F2	60TB, 100TB, 140TB, or 200TB SAS	800GB
Avid NEXIS | F2X	60TB, 100TB, 140TB, or 200TB SAS	N/A
Avid NEXIS | F2 SSD	38TB or 150TB	800GB
Avid NEXIS | F5	60TB, 100TB, 140TB, or 200TB SAS	1600GB (2022 to mid-2024) 800GB (Mid-2024 and newer)
Avid NEXIS | F5 NL	160TB or 240TB SAS	800GB
Avid NEXIS | PRO+	40TB SATA	400GB
Avid NEXIS | SDA	N/A	400GB
Avid NEXIS | E2, Avid NEXIS | E2 All-Mirror Avid NEXIS | E4, Avid NEXIS | E4 All-Mirror	60TB, 100TB, or 140TB *20TB*	200GB
Avid NEXIS | E5, Avid NEXIS | E5 All-Mirror	60TB, 100TB, or 140TB *20TB*	800GB
Avid NEXIS | E5 NL	160TB *120TB*	800GB
Avid NEXIS | E2 SSD	19.2TB, 38.4TB *9.6TB*	400GB
Avid NEXIS | PRO 40TB	40TB	400GB

The system drive capacities listed here are minimums; Avid reserves the right to supply a larger capacity drive as a replacement.

Avid NEXIS SSD system drives cannot be removed from one system and used as a replacement in another system. The system drives are initialized as a mirrored pair during the manufacturing process. A new, replacement SSD from Avid has not been initialized in an Engine and is the only safe replacement for a failed system drive.

Drive Labels

All drives, whether for Media Packs or system drives, have a label that indicates the type, capacity, and a serial number, as follows:

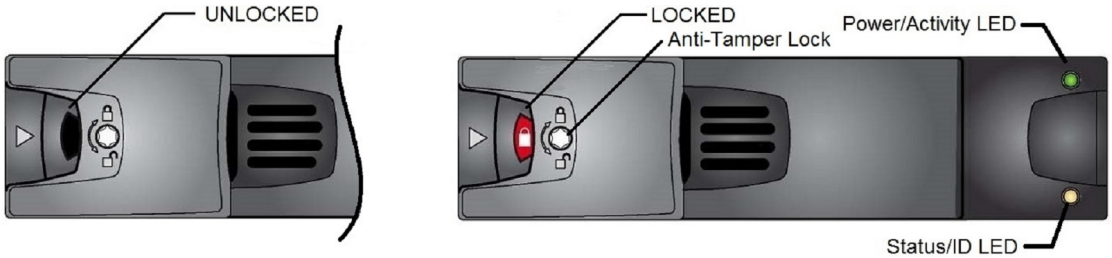
Label	Description
	System drive and SSD Media Pack drive labels include the capacity, the letters SS for solid state, and a manufacturer serial number.
	HDD Media Pack drive labels include the capacity, the abbreviation 7K2 indicating the drive speed (7200 RPM), and a manufacturer serial number.

Drive Types and Sizes

Avid NEXIS systems use the following drive types, sizes, and carrier sizes.

Avid NEXIS Model	Media Pack Drives	System Drives
F2, F2X, PRO+, F5, F5 NL Legacy: E2, E4, PRO 40 TB, E5, E5 NL	3.5” HDDs in 3.5” carrier	2.5” SSDs in 3.5” carrier
F2 SSD	2.5” SSDs in 2.5” carrier	2.5” SSDs in 2.5” carrier
Legacy: E2 SSD	2.5” SSDs in 3.5” carrier	2.5” SSDs in 3.5” carrier
SDA+ Legacy: SDA	N/A	2.5” SSDs in 3.5” carrier

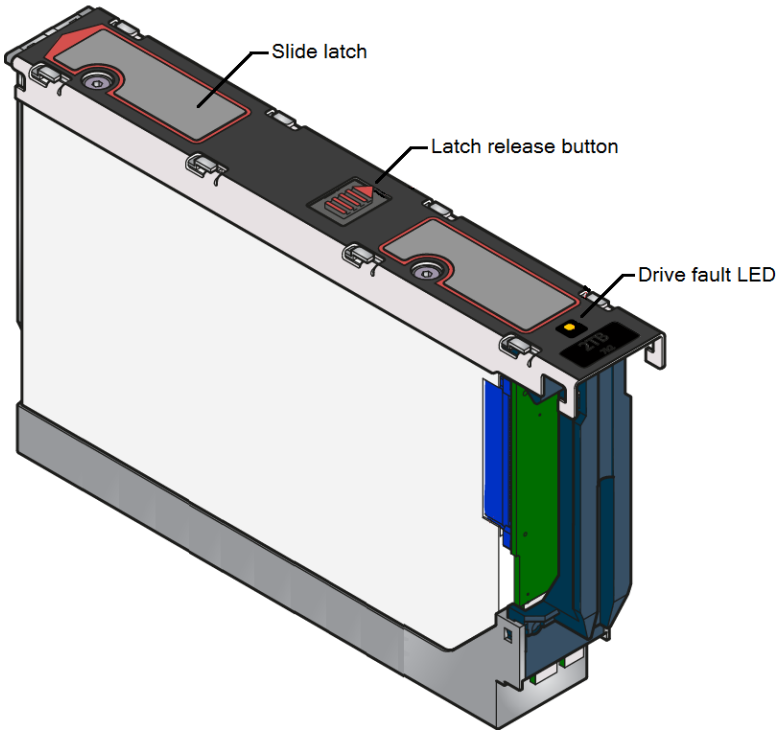
The drives in the 2U and 4U models have a red lock indicator and two LEDs that show the drive status, explained in the following figure and table.



2U and 4U Drive LEDs

Feature	Status Indicator
Power and activity LED	Off—No power Blinking—I/O activity
Status and identification LED	Blinking 1 second on, 1 second off—To identify the drive On—Drive failed Off—OK

The drives in the 5U chassis Media Packs have one LED that indicates a drive failure. The drive LED is visible only when the drive drawer is open.



Default Location of System Drives

The system drives can occupy any slots. From the factory, the system drives are typically installed as follows:

- Slots 0 and 1 in 2U and 4U chassis and the System Director Appliances
- Slots 28 (top drawer) and 70 (bottom drawer) in 5U chassis

Chassis Drive Numbering

In 2U and 4U models, the drives are behind the front bezel.

A System Director Appliance contains two system drives but no media drives; the empty slots are covered with blank plates for proper airflow and cooling.

System Drive Numbering for the System Director Appliance



Drive Numbering for 2U (12-Drive) Storage Chassis (Except Avid NEXIS | F2X)



Drive Numbering for Avid NEXIS | F2X



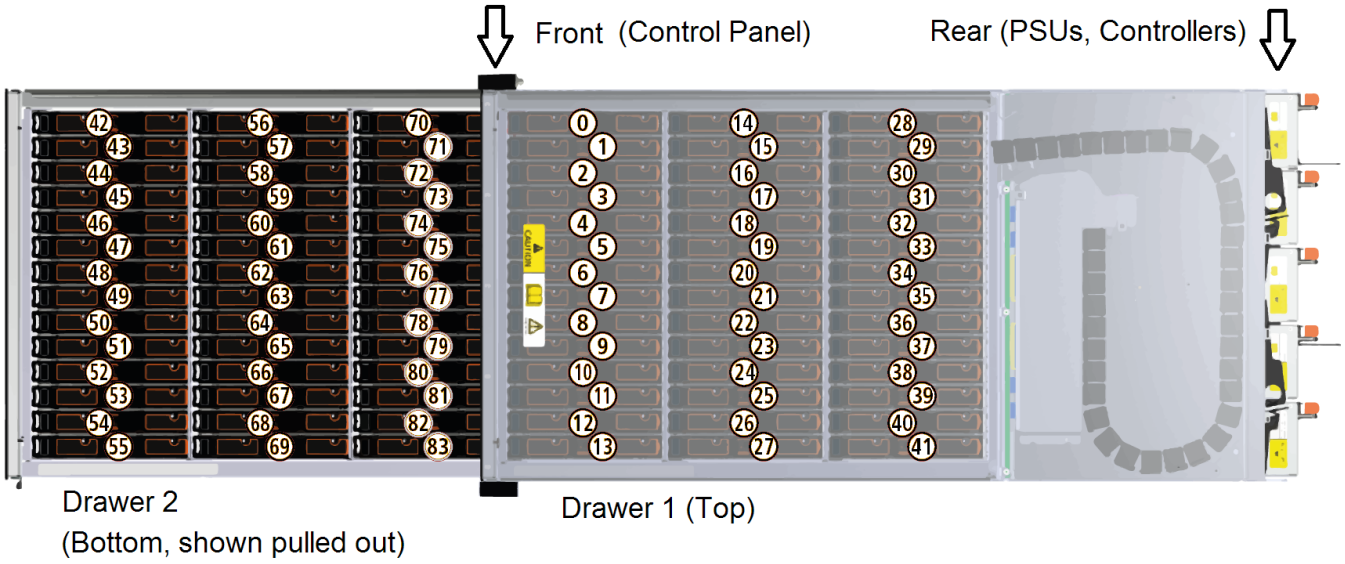
Drive Numbering for Avid NEXIS | F2 SSD



Drive Numbering for All 4U Chassis



Drive Numbering for All 5U Chassis



The 5U models have two drive drawers, accessible from the front without removing the bezel. Drive slot numbering is shown in the previous figure (top view, with bottom drawer extended).

Drives 0-41 are in the top drawer, drives 42-83 are in the bottom drawer.

The two system drives are factory installed in slots 28 (top drawer) and 70 (bottom drawer) but can be in any slots.

Power Supplies and Fans

Depending on your Avid NEXIS model, the Engine or System Director Appliance has the following number and type of power supply/cooling modules (PCMs) or power supply units (PSUs). The PCMs or PSUs are turned on when the power cord is plugged in and the power switch is on.

All the PSUs or PCMs in a given Engine must be the same power rating. For example, in a 2U Engine or SDA+, both PSUs must be 764W.

Avid NEXIS Models	Power and Cooling Modules	Power Supply Operation
All 2U Engines including PRO and PRO+ System Director Appliances	Dual 764W PCMs with integrated fans	1+1 redundant configuration, meaning the system remains running even if one PCM fails. For maximum protection from power loss, both PCMs must be plugged in to separate electrical circuits or separate UPS devices and turned on, so the system can balance its power needs between them. If one PCM fails, the system can continue operating.
Expansion Chassis (Avid NEXIS | F2X only)	Dual 580W PCMs with integrated fans	1+1 redundant configuration, meaning the system remains running even if one PCM fails. For maximum protection from power loss,

Avid NEXIS Models	Power and Cooling Modules	Power Supply Operation
		both PCMs must be plugged in to separate electrical circuits or separate UPS devices and turned on, so the system can balance its power needs between them. If one PCM fails, the system can continue operating.
All 4U Engines	Four 580W PCMs with integrated fans	2+2 redundant configuration, meaning the system remains running even if any two PCMs fail. For maximum protection from power loss, each pair of PCMs must be plugged in to separate electrical circuits or separate UPS devices (for example, two on circuit A and two on circuit B), and all must be turned on, so the system can balance its power needs among them.
All 5U Engines	Dual 2200W PSUs and five fan modules with two fans each (total of 10 fans)	1+1 redundant configuration, meaning the system remains running even if one PCM fails. Engine can run with only two of the five fan modules. Leave failed power supplies or fans in place until the replacement is ready to be installed to maintain proper airflow and cooling.

ECO Power Supply Units

Avid NEXIS F-Series and Avid NEXIS | PRO+ systems can use a new generation of power supply units that are more energy efficient and conform to the requirements of the 2009/125/EC Ecodesign Directive, established by the European Environmental Agency.

The ECO PSUs look the same as the current High-Efficiency (HE) PSUs but have a label that indicates they are the ECO type, as follows:

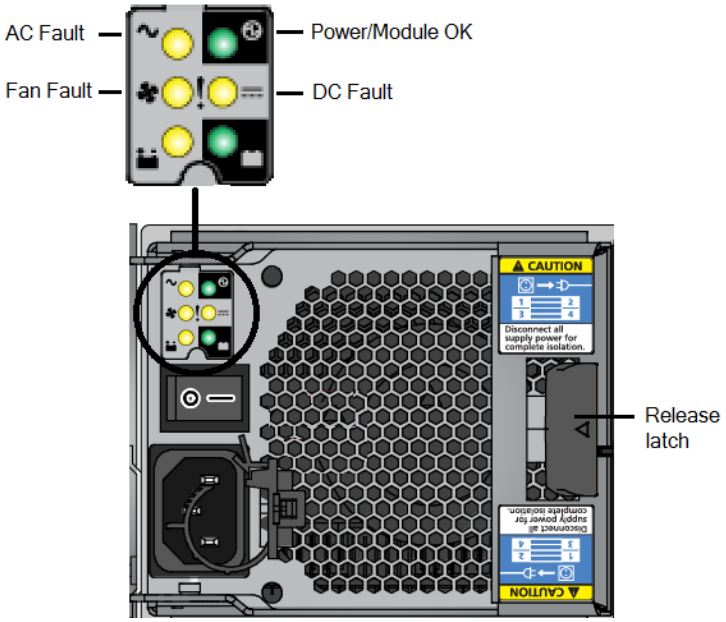
PSU Rating	Non-ECO Part Number and Label	ECO Part Number and Label
580W	9900-74184-00 PCM-580-HE	9900-74210-00 PCM-580-ECO
764W	9900-74185-00 PCM-764-HE	9900-74211-00 PCM-764-ECO
2200W	9900-74183-00 PCM-2200-HE	9900-74209-00 PSU-2200-ECO

All the power supplies in a particular Engine must be the same: either HE or ECO. However, in a shared-storage system with multiple Engines, you can have both HE or ECO power supplies.

When ordering a replacement PSU or power module, make sure it has the same part number suffix as the one you are replacing.

764W Power Supply Features

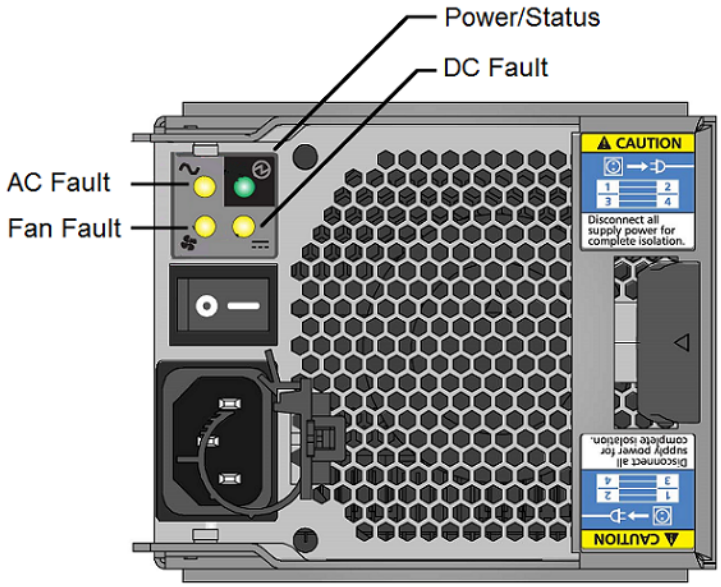
The 764W PCMs are used in all 2U Engines, PROs, and System Director Appliances.



The two LEDs marked with battery icons, are not used.

580W Power Supply Features

The 580W PCMs are used in all 4U Engines and the Avid NEXIS | F2X Expansion Chassis.



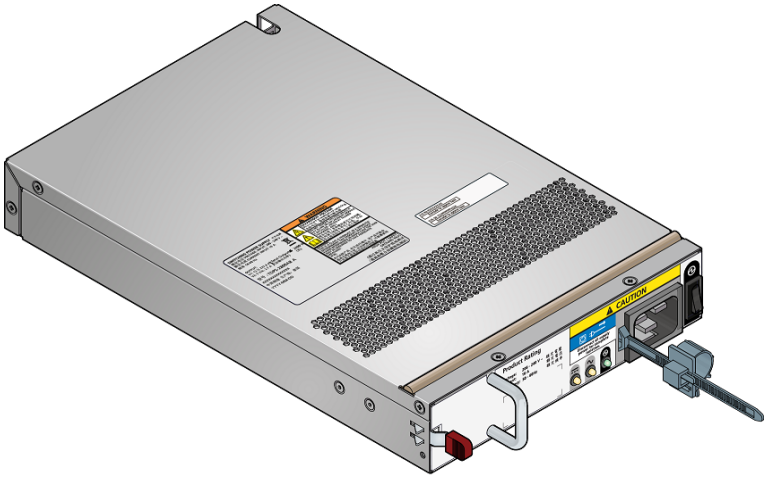
The LEDs on the 580W PCM work together to indicate overall module status; in the following table, for each row, all the LEDs must be in the listed state for the definition to apply.

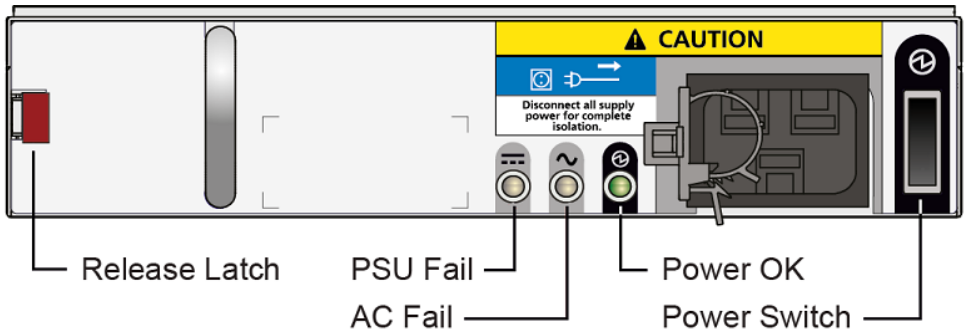
580W Power Supply/Cooling Module LEDs

AC Fault	Fan Fault	Power/Module OK	DC Fault	Definition
For readability, a series of dashes (---) means the LED is OFF.				
---	---	---	---	No AC power on any PCM
On	---	---	On	No AC power on this PCM
---	---	On	---	AC present; PCM OK
---	---	On	On	PCM fan speed is outside acceptable limits
---	---	---	---	PCM fan has failed
On	On	---	On	PCM fault (over temperature, over voltage, or over current)
---	---	Flashing	---	Standby mode
Flashing	Flashing	---	Flashing	PCM firmware download in progress

2200W Power Supply Features

The 2200W PSUs are used in all 5U Engines.



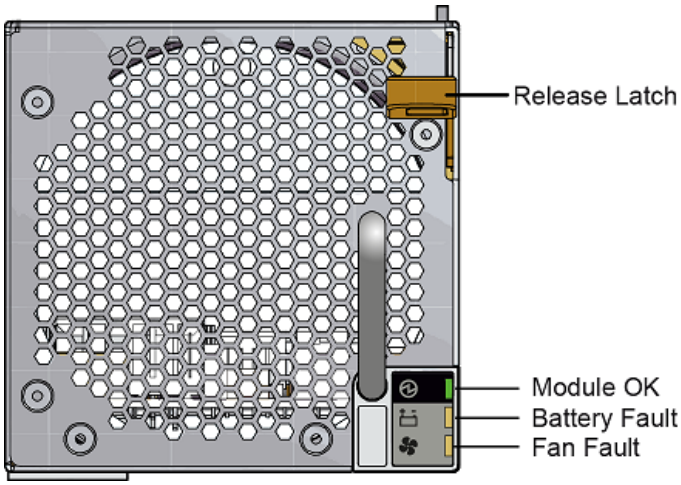


2200W PSU LEDs

PSU Fail (Amber)	AC Fail (Amber)	Power OK (Green)	Status
For readability, a series of dashes (---) means the LED is OFF.			
---	---	---	No AC power to either PSU
On	On	---	PSU present but not supplying power
---	---	On	Mains AC present, switch on. This PSU is providing power
---	---	Flashing	AC power preset, PSU in standby mode (other PSU is providing power)
Flashing	Flashing	---	PSU firmware download in progress
On	On	---	PSU alert state (usually due to reaching critical temperature)
---	On	---	Mains AC to this PSU is missing (This PSU is on standby, other PSU is OK)
On	On	On	GEM software has lost communication with PSU
On	---	---	PSU has failed

Fan Modules (5U Only)

The 5U Engines have fan modules that are separate from the PSUs. (2U and 4U Engines use a a combination power/cooling module.)



Fan Module LEDs

Fan OK (Green)	Battery fault (Amber)	Fan fault (Amber)	Status
For readability, a series of dashes (---) means the LED is OFF.			
---	---	---	Fans OK
---	---	On	Communication lost with fan module Controller
---	---	On	Reported fan speed is out of tolerance

Fan OK (Green)	Battery fault (Amber)	Fan fault (Amber)	Status
On	---	---	Fans and battery OK
Flashing	---	---	Battery charging
---	On	---	Battery fault
On	---	---	PSU has failed

Leave failed power supply or fan modules in place until you have a replacement so you maintain the proper airflow. Obtain a replacement as soon as possible.

2 Connecting the Equipment

This chapter explains how to rack mount and connect the system hardware.

If you purchased redundant Controllers for your Engines or System Director Appliance, do not fully insert them until you have completed the initial system configuration, including upgrading the software. The system must be running with single Controllers in all components before installing (or fully seating) redundant Controllers.

Rack Mounting Guidelines and Requirements

Avid recommends installing the Avid NEXIS hardware in a rack, using the following guidelines:

- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient. Make sure the rack environment is compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
- No significant temperature changes. Choose a location where the temperature does not vary more than 18°F (7.78°C) per hour.
- No significant humidity changes. A location with approximately 40 percent humidity can prevent problems stemming from electrostatic discharge.
- Avoid uneven mechanical loading.
- Make sure your rack enclosure is stable enough to prevent tipping over if using extending sliding rails.
- Follow the equipment nameplate ratings to avoid overloading the circuits.
- Maintain reliable grounding of rack-mounted equipment, especially regarding supply connections other than direct connections to the branch circuit (for example, power strips).
- Adequate space in front of and behind the rack. You must be able to connect cables and service parts of your hardware.
- Adequate airflow for cooling, from the front of the enclosure to the rear. Make sure nothing blocks airflow to the front panel surface and the rear.
- For normal operation, maintain approximately 2 feet (0.6 meters) of open space in front of and behind the rack. This allows free access to the components in the rack for operating changes or adjustments. For service, maintain approximately 3 feet (1 meter) of open space in front of the rack and 2 feet (0.6 meters) of open space behind the rack. This allows for the removal of any component that needs to be replaced.
- Spacing between Avid NEXIS engines in a rack is not required. However, if possible, it is advisable to leave 1U between units to facilitate servicing. Please note that doing so will reduce the number of units that can fit in a single rack.

  To ensure the stability of the rack enclosure, install the heaviest equipment in the lower sections of the rack enclosure. Install lighter equipment in the middle and upper sections.

  For information about power specification and dimensions see "Specifications and Notices" on page 78.

Rack-Mounting the Equipment

The Avid NEXIS chassis are designed for 19-inch (483-mm) rack configurations and need rack units corresponding to the chassis size. See "Avid NEXIS Models" on page 11.

The rack mount kit can accommodate racks with round, square, or threaded holes, sometimes called broadcast racks. Installation instructions are included on a decal located on the side of one of the bracket rails.

Do not lift the equipment by the handles on the power supply units, fan modules or Controller – they are not designed to support the weight of the entire system.

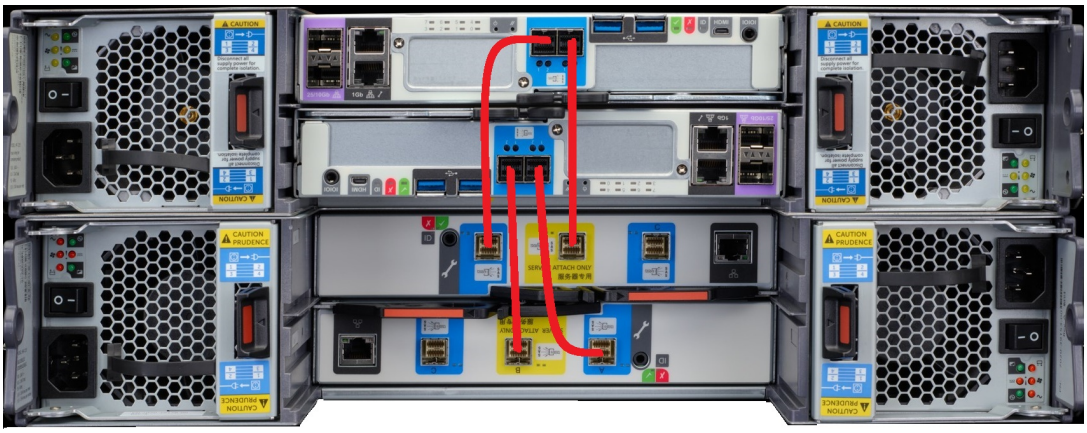
Avid recommends that two people lift the chassis, especially when installing in upper rack units.

To mount a 2U or 4U chassis in the rack:

1. Install the mounting rails using the instructions on the attached label.
2. If you purchased a redundant Controller, insert it fully into the chassis before installing the chassis in the rack.
3. Remove the plastic end cap covers from the front of the chassis. (These cover the screws that secure the chassis to the rack in the absence of a bezel.)
4. Slide the chassis onto the mounting rails and secure to the rack using the two supplied screws.
5. If applicable, rack-mount the Avid NEXIS | F2 and Avid NEXIS | F2X into adjacent rack units. Make sure the supplied SAS cables (approximately 0.5 meters) can easily reach between the chassis.
6. If applicable, connect the SAS cables between the Controllers in the Avid NEXIS | F2 and the I/O modules in the Avid NEXIS | F2X. **Connect the cables exactly as follows:**

   If the Avid NEXIS | F2 has a single Controller, connect it to the top I/O module in the Avid NEXIS | F2X.

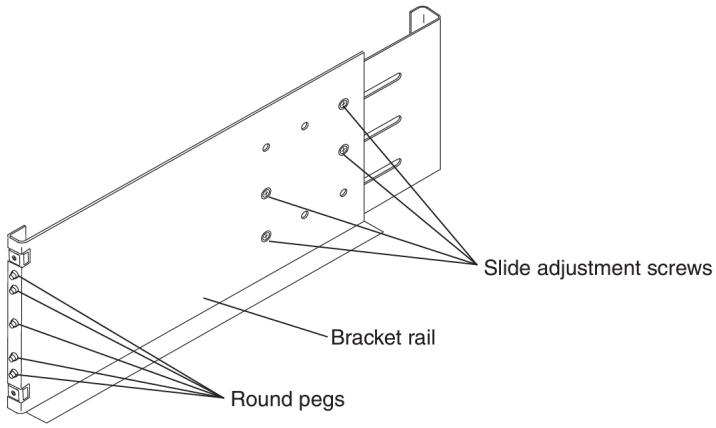
   If the Avid NEXIS | F2 has two Controllers, connect the top Controller to the top I/O module, and connect the bottom Controller to the bottom I/O module.



7. Insert the Media Pack drives into the empty drive slots (see "Installing Media Packs in 2U and 4U Engines" on page 38).
8. Attach the bezel to the front of the chassis.

To mount a 5U chassis in the rack:

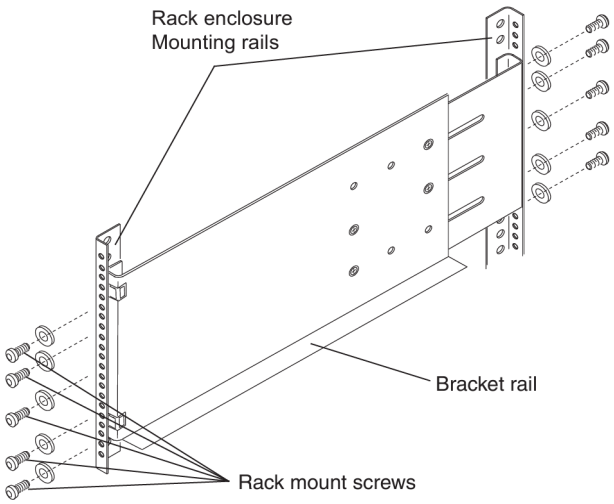
1. (Optional) If using racks with threaded holes, unscrew and remove the five round pegs on each end of the bracket rail.



2. Loosen the four slide adjustment screws so to adjust the bracket rail to the depth of your rack.

   The adjustment screws are highlighted in a colored circle around the screw.

3. Position the bracket rail between your rack mount rails and adjust the length of the bracket so that it meets the inside of both the front and rear rails as shown in the following figure.



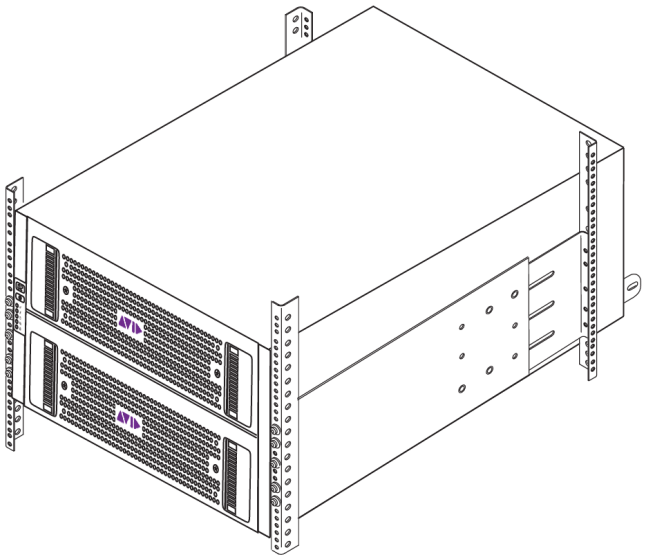
4. Secure the bracket rail to the front and rear mounting rails using either the screws that come with the rack mount kit of your rack screws (five screws in the front and the rear).

   Leave the top holes on the front of the rail empty so you can use those holes to secure the chassis to keep it from sliding forward once racked.

5. Tighten the four slide adjustment screws.
6. Repeat steps 1 through 5 to install the other bracket rail on the opposite side of the rack.

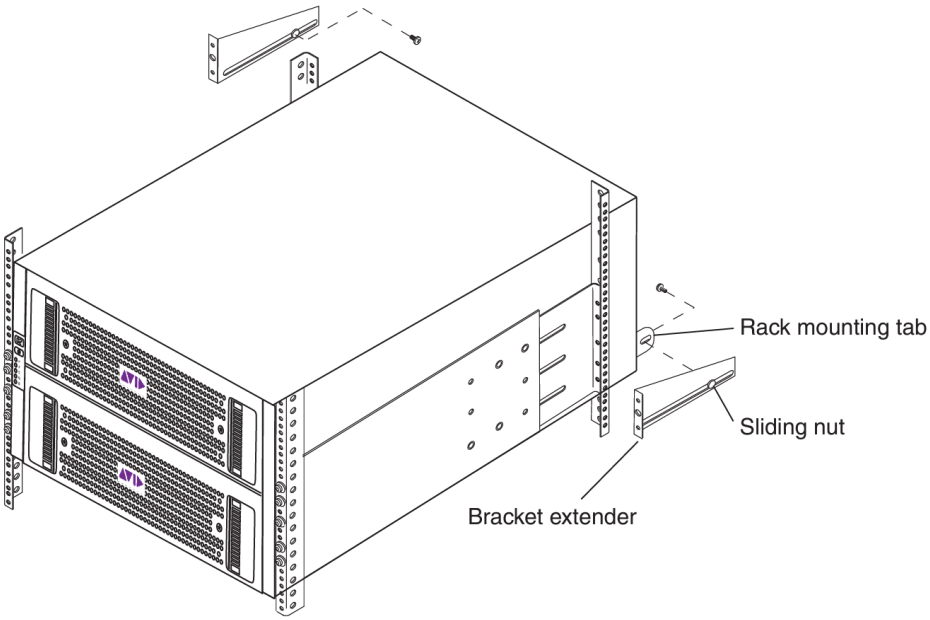
   Make sure that the media drives are not yet installed in the chassis.

7. With at least one more person, lift the Engine and place the rear of the chassis onto the brackets as shown in the following figure.

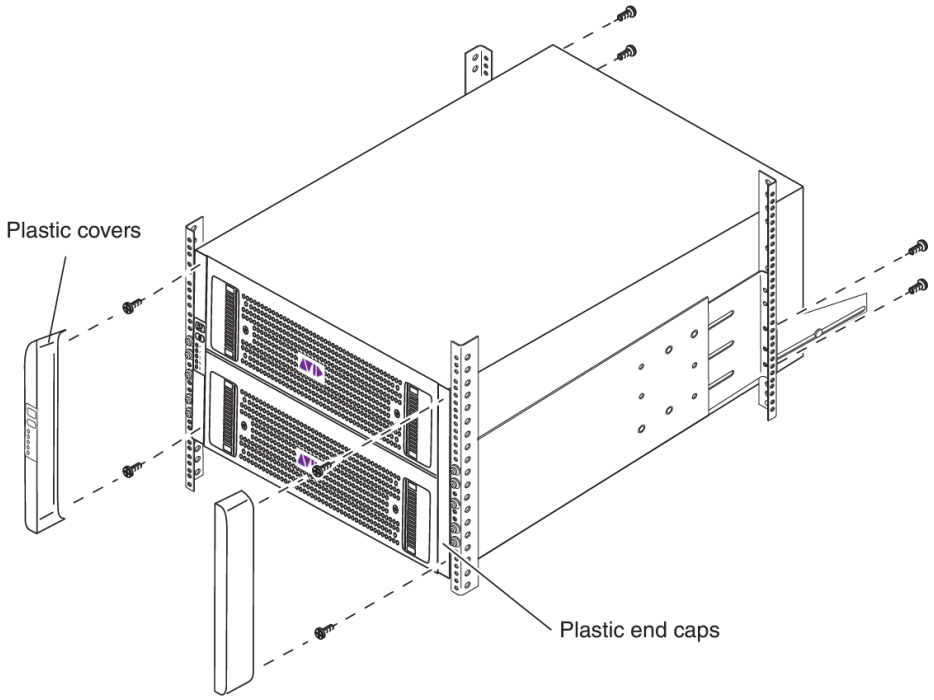


8. Position the bracket extender on the outside of the rear mounting rail so that the sliding nut in the bracket extender inserts into the rack mounting tab on the chassis. Using the short screws included in the rack mount kit, secure the bracket extender to the rack mounting tab on the chassis as shown in the following figure.

   The rack mount kit provides two sets of bracket extenders: a long pair and short pair. Use the pair of bracket extenders that are most appropriate for your rack. For shallower racks use the longer bracket extenders.



9. Using the screws from the rack mount kit, secure the chassis to the front of the rack through top and bottom holes of the plastic end caps as shown in the following figure.



10. Using the screws from the rack mount kit or screws you supply, secure the rear stabilizer brackets to the rear rack mount rails through top and bottom holes in the extender bracket as shown in the preceding figure.
11. Snap the left and right plastic covers over the plastic end caps on the front of the chassis as shown in the preceding figure.

Installing Media Packs in 2U and 4U Engines

The 2U and 4U Engines can hold the following numbers of Media Packs and spare drives.

Model	Media Packs	Spare Drives
Avid NEXIS | F2 SSD	1-2	0-2
Avid NEXIS | F2	1	0
Avid NEXIS | F2X	1	0-2
Avid NEXIS | PRO+	1	0
Legacy Models		
Avid NEXIS | PRO 40TB, Avid NEXIS | E2, Avid NEXIS | E2 All-Mirror, Avid NEXIS | E2 SSD	1	0
Avid NEXIS | E4, Avid NEXIS | E4 All-Mirror	1-2	0-2

To install the Media Pack (and optional spare) drives:

1. Make sure the anti-tamper lock is not engaged (see "Media Pack and System Drives" on page 24). The red lock indicator is visible if the lock is engaged. Unlock the drive using a screwdriver with a Torx T20 bit by rotating the lock counterclockwise until the lock indicator is completely hidden.
2. Insert the drive into the slot, with the lock mechanism pointing left (if drive slots are horizontal) or pointing upwards (if drive slots are vertical).

3. Push the drive in until the release latch starts to pull inward.
4. Push the release latch in you hear it click shut.
5. Lock the drive with the Torx T20 bit; make sure the red lock icon is fully visible in the viewing window.

Installing Media Packs in 5U Chassis

A 5U chassis comes with at least four Media Packs (the required minimum) and supports up to eight Media Packs and up to two spare drives. The system drives are preinstalled in the chassis, in slots 28 (top drawer) and 70 (bottom drawer).

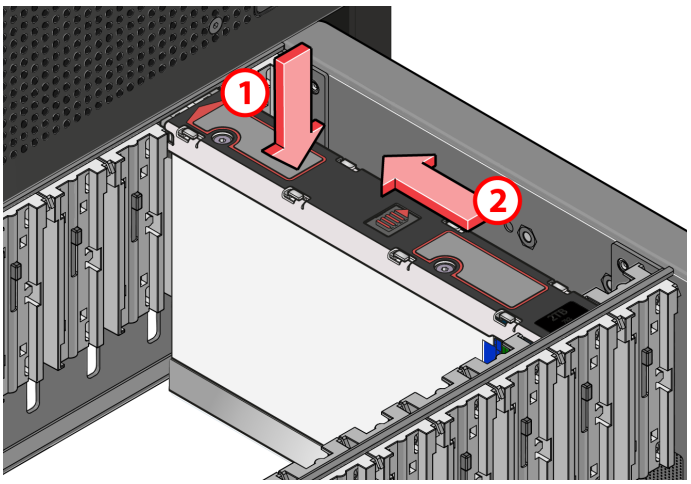
⚠ For correct airflow, the chassis must contain at least four Media Packs (divided between the two drawers) and two system drives.

If starting with fewer than eight Media Packs, populate the front rows of both drawers first, then the middle rows. As you purchase and install more Media Packs and spares, fill the slots in the remaining rows (there is no need to move the spare drives when inserting additional media drives).

Insert spare drives in the next sequential slots after the last Media Pack drive.

To install the Media Pack drives:

1. Open the top drawer.
2. Install 20 of the Media Pack drives into the first several rows of slots. Push each drive downwards and hold it down while sliding the drive carrier plate in the direction shown in the following figure. This locks the drive in place.



3. Make sure the drive is securely locked into place before closing the drawer. Unlocked drives can open due to chassis vibration and lift up enough to prevent the drawer from opening. Forcing the drawer open will damage the drive and the chassis.
4. Close and lock the drawer.
5. Open the bottom drawer.
6. Install the remaining 20 Media Pack drives into the first several rows of slots. Again, make sure all drives are locked.
7. Close and lock the drawer.

Connecting the Equipment to Power

All Avid NEXIS systems ship with the following quantity and type of North American standard power cables. You might need to obtain power cords from your local reseller or support depot suitable for your locale.

The "female" end connects to the power supply in the chassis, and the "male" end connects to the power source (mains) or power distribution unit.

Avid NEXIS Model	Power Cable Type	Quantity
Avid NEXIS | F2, Avid NEXIS | F2X, Avid NEXIS | F2 SSD, Avid NEXIS | PRO+, Avid NEXIS | SDA+	C13 Female to NEMA 5-15P Male or C13 Female to C14 Male	2
Avid NEXIS | E2, Avid NEXIS | E2 All-Mirror, Avid NEXIS | E2 SSD, Avid NEXIS | PRO 40TB, Avid NEXIS | SDA	C13 Female to NEMA 5-15P Male	2
Avid NEXIS | E4, Avid NEXIS | E4 All-Mirror	C13 Female to NEMA 5-15P Male	4
Avid NEXIS | E5, Avid NEXIS | E5 NL, Avid NEXIS | E5 All-Mirror, Avid NEXIS | F5 NL	C19 Female to C20 Male (connects to Power Distribution Unit with C19 style connectors)	2

Avid does not recommend any specific vendor or model of PDU. A PDU is a rack mount ready, high current power strip that can offer a variety of plug types. Purchase a model that suits the needs of the equipment in your rack.

For the 5U models, connect each power supply in the Engine to a different 30-amp circuit. This allows the system to continue running if one circuit fails.

Plug the power cords into the power supplies on the back of the chassis and then plug the other ends into power outlets on separate circuits. If they are not already in the ON position, turn on the switches on the power supplies.

When you turn on the power supplies, the hardware begins its internal startup processes; it can take several minutes before the system becomes available to log in. The LEDs on the Engine (or System Director Appliance) and power supplies light up. Initially, the power supply fans run at their maximum RPM for a few minutes, then slow down to normal RPM.

3 Installing the Software and Setting up the Avid NEXIS System

The process of installing and setting up the Avid NEXIS Engine and System Director Appliance, if applicable, consists of the following overall steps.

This overview assumes you are the owner or end user of the equipment. Rental houses do not need to perform all of these steps.

1. Collect the information you will need. See "System Setup Information" below.
2. Register the system and download the software and the license onto a computer you can physically connect to the Avid NEXIS hardware. See "Registering the System and Downloading the Avid NEXIS Software" on page 44 and "Understanding System Licenses " on page 44.
3. Set the computer's IP address to be compatible with the hardware. See "Configuring the Computer's IP Address" on page 45.
4. Starting with the SDA+ (if applicable) or the first Engine in a configuration without a System Director Appliance, connect the computer to the management port on the Controller.
5. Run the setup wizard to install the software and configure the system. See "Installing the Software" on page 48 and "Configuring the Engine or SDA+" on page 49.

   If you plan to use a redundant Controller in any Engine or the SDA+, you can enter its information during this process before physically installing it.

   This step does not apply to the Avid NEXIS | F2X Expansion chassis. See "Adding an Avid NEXIS | F2X (Expansion Chassis) to a System" on page 60.

   At this point, rental houses can activate the modular license on the Engine and then deliver the Engine to their customer. See "Activating a Modular License " on page 52 for more information.
6. Connect the equipment to one or more switches. See "Connecting the Equipment to a Switch" on page 54.

   The Engine and the System Director Appliance (if applicable) must be connected to a supported switch to complete the next steps.
7. Complete the system configuration, including creating the file system, applying a system (capacity) license or activating a modular license on one or more Engines, and binding the Media Packs. See the Avid NEXIS Administration Guide.

Before you begin, review the information in "Avid NEXIS System Overview" on page 10. If you have questions during the installation process, contact your Avid representative or your local ACSR.

System Setup Information

To complete the initial software installation and system setup, you will need the following information. In addition, determine whether you will use link aggregation (LACP) in your environment. See "Using Link Aggregation (LACP) " on page 53.

Attribute	Notes
Storage System Name — Identifies the Avid NEXIS system to clients and to all the Engines,	The Storage System Name must follow RFC 952 and RFC 1123 guidelines for host names.

Attribute	Notes
and the System Director Appliance if applicable, that belong to the same Avid NEXIS system. See "Understanding the Shared Name Space" below.	Avid NEXIS supports names including *only the following*: up to 31 English alphanumeric characters (a-z and A-Z, and 0-9), plus a dash/hyphen character (-). The name must start with a letter or number, and cannot end with a dash.
System Director IP Address — An IP address that enables you to log into the system's Management Console and administer the system as a whole.	Get the IP address from your IT administrator (for example if you work for an organization such as a broadcaster or production facility. If you manage your own network (sole proprietorship, for example), enter an IP address that is not currently assigned to another system or device in your network.
Engine Name — Identifies the Engine or System Director Appliance, if applicable. See "Understanding the Shared Name Space" below.	Names can be up to 18 English alphanumeric characters long, can contain a dash or hyphen (-), must start with a letter, and cannot end with a dash. *The Engine name is used to generate the Controller name, with a positional suffix (-left, -right, -top, or -bottom)*
Controller IP addresses	In a multi-Engine configuration, you will need a separate IP address for each Controller in each Engine, all of which must be on the same subnet.
Netmask and Gateway IP address	Must be the same for all the Controllers in all Engines in a multi-Engine configuration
DNS domain, server list and search list	If your environment uses DNS, you can enter that information to allow you to use either the System Director name or the IP address to connect to the Avid NEXIS system. *DNS is required to activate a license online. See "Using DNS for System Name Recognition and Online License Activation" on the next page.*
NTP server IP addresses (optional)	You can configure up to two. Enter the same information on all Engines and the System Director Appliance, if applicable, in the configuration. For more information, see "Using NTP to Set System Time" on the next page. Alternatively, enter the local time (in 24-hour format) and time zone information.

Understanding the Shared Name Space

The Avid NEXIS shared storage system uses several names to identify its physical and virtual components.

Storage System Name

The Storage System Name represents all the physical Engines, expansion chassis, and the System Director Appliance if applicable, operating as one shared storage group. Clients see and connect to the Storage System name through the Client Manager UI. You enter the Storage System Name in the Remote Host Settings dialog box in the Client Manager if the Avid NEXIS system is not in the same subnet as the client system (use the System Director IP address if your environment does not use a DNS server; see "System Director Name and IP Address" on the next page).

If you plan to use DNS, make sure to give the system a different name from the domain name, to avoid conflict. For example, if your domain name is “netsirkusa.internal”, do not name a shared-storage system “netsirkusa.” Clients that do not use Net BIOS are incompatible with the default DFSN (Distributed File System Namespace) behavior and will fail to distinguish between the domain name and the Avid NEXIS system name, since DFS client names take precedence. For more information on this issue and correctly configuring DFS, see the following Microsoft article: Configuring DFS to use fully qualified domain names.

Engine and Controller Names

Each Engine, and the System Director Appliance if applicable, has an Engine name. The Engine name is used to generate the host names of the Controllers in that chassis. This helps associate a particular Controller with the physical chassis it resides in.

System Director Name and IP Address

The shared storage system has one System Director, which runs either on an Engine (if no System Director Appliance is present) or on the System Director Appliance. Specifically, the System Director runs on one of the Controllers in the Engine or System Director Appliance.

The System Director is a service that can switch over to the redundant Controller in an Engine or System Director Appliance, if two Controllers are present. The System Director name, therefore, can change based on where it is running at the time:

- In a multi-Engine configuration that does not include a System Director Appliance, the System Director runs on the first Controller in the first configured Engine. Therefore, that Controller name is initially also the System Director name.
- In a configuration with a System Director Appliance, the first Controller in the System Director Appliance runs the System Director, and its name initially becomes the System Director name.

Because the System Director service can migrate between the Controllers, the System Director uses an IP address different from the IP addresses assigned to the Controllers. This functions as a virtual IP address, and allows you to connect to the System Director any time, without needing to know the IP address or host name of the Controller currently serving the System Director process.

Using DNS for System Name Recognition and Online License Activation

DNS, or Domain Name System, is a distributed naming system that lets you use human-readable and -memorable names for computers in your environment. The Internet uses the same principle; for example, to go to Avid’s website, you enter www.avid.com into a browser. If the Internet did not have the ability to resolve that name to an IP address, you would have to remember and enter the IP address for Avid’s website.

Because most people find it easier to remember a name than a number, with a DNS service in your environment, you can use the name you assign to your Avid NEXIS system (for example, MyAvidStorage) instead of the IP address. Then you can enter the name into a browser to open the Management Console and log in.

⚠ Using DNS is required to use the online method to activate an Avid NEXIS license (see the Avid NEXIS Administration Guide for more information about licenses).

Using NTP to Set System Time

NTP, or Network Time Protocol, is a means of synchronizing the system clocks for all the computers in your environment. This can be important in cases where network-wide operations must happen at the same time, or for logging accuracy, or simply to eliminate potential human error when setting system times manually. Avid recommends using an NTP server to make sure all Engines (and the System Director Appliance, if applicable) in a multi-Engine configuration are set to the same time, and to avoid unexpected license expiration issues. See the Avid NEXIS Administration Guide for more information.

Understanding System Licenses

A license is required to control functionality of the system, such as Flexible or All-Mirror Protection, SDA+ capabilities, and (for Subscriptions) the end date and licensed capacity.

An Avid NEXIS shared-storage system can have one of the following license configurations.

Modular License

Beginning in Avid NEXIS version 2023.7.0, any Perpetual (non-subscription) F-Series Engine and PRO+ supports a modular license. Installing the modular license is a one-time operation, making it easier to add or remove an Engine from a given system without needing to change the system capacity license.

For example, rental houses can purchase an Engine and activate its modular license, then bring the Engine to their customer's site. The customer can add it to their shared-storage system for the duration of a project with no impact on their system capacity license, then remove it and return it to the rental house.

The Engine retains its own license (both owned by the rental house) and can be redeployed to a different customer system as a building block.

For facilities that own their equipment, a modular license also makes it easy to move Engines between systems as capacity or project needs change.

Modular licensing requires Avid NEXIS | VFS 2023.8.0 or higher.

Newly purchased Engines will receive a modular license. You can add these Engines to systems with capacity licenses.

System Capacity License

A system capacity license, for subscription systems, enables the System Director service and covers the capacity of the Media Packs, configurable either as Flexible or All-Mirror protection. The protection type of a given license cannot be changed.

Capacity licenses are required for any configuration containing an F-Series subscription Engine, and were also previously supplied for Perpetual systems. (The Avid NEXIS | SDA+ uses a specific license type to enable either Standard or Advanced functionality.)

In existing installations of Avid NEXIS using a capacity license, you can add new Engines with Modular licenses if the entire system is running Avid NEXIS | VFS 2023.7.0 or higher.

The Avid license (modular or capacity) is associated with the chassis ID. If you replace an Avid NEXIS | PRO+ or F-Series chassis that has a modular license, or the Engine running the System Director service for the shared-storage system, contact Avid for an updated license. (The Avid NEXIS | F2X expansion chassis does not have its own modular license and does not need a new one.)

Legacy Systems (Avid NEXIS E-Series and Avid NEXIS | PRO 40TB)

Cross-graded E-Series and PRO 40TB require a license. Perpetual configurations of all Avid NEXIS | PRO 40TB or all E-Series Engines (with or without an SDA) do not require a license. Cross-grade subscriptions provide customer support and the ability to download and use new releases of the Avid NEXIS software while the subscription is active.

Registering the System and Downloading the Avid NEXIS Software

You must register your system before you can download the Avid NEXIS software. Avid suggests downloading the software onto the same computer you will connect to the hardware.

To register the hardware and download the software:

1. Open a browser and go to www.avid.com/redemption and register your system using the redemption code you received when you purchased your system. (Your redemption code or license code might already be in your MyAvid account.)

   After you register, the software and the license activation ID and system ID will be available in your Avid.com account.

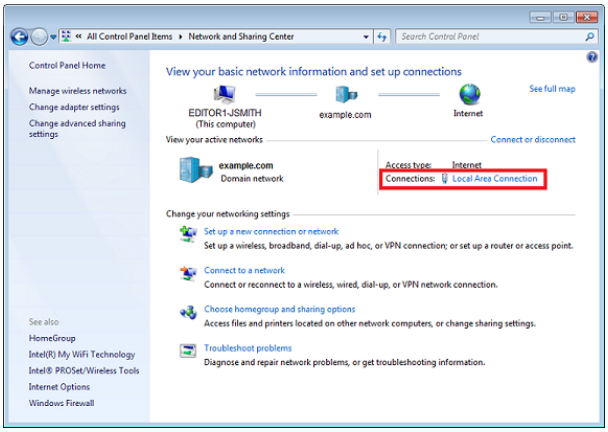
2. Download the Avid NEXIS software kit (a zip file) to a computer that you can physically connect to the Engine or System Director Appliance.
3. Unzip the software kit. You will see several files and folders. The file you will install on the Engine is named `AvidNEXISSetup_<version>.bin`.

Configuring the Computer's IP Address

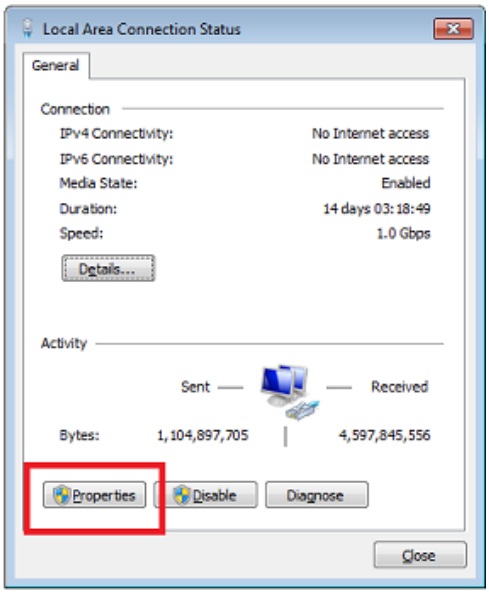
To communicate with the Avid NEXIS hardware, the computer must use an IP address in the same subnet as the default IP address on the Controller (169.254.10.10). This guide uses the address **169.254.10.20** and assumes the computer is running the Windows operating system.

To configure the computer's IP address for Avid NEXIS installation:

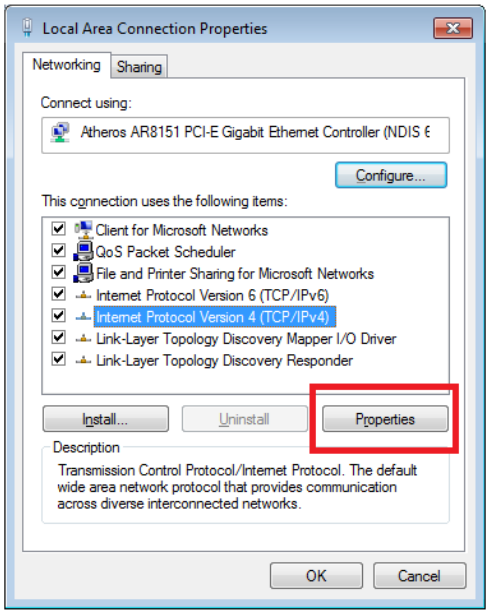
1. Open the Windows Control Panel Network and Sharing Center.
2. Click Local Area Connection.



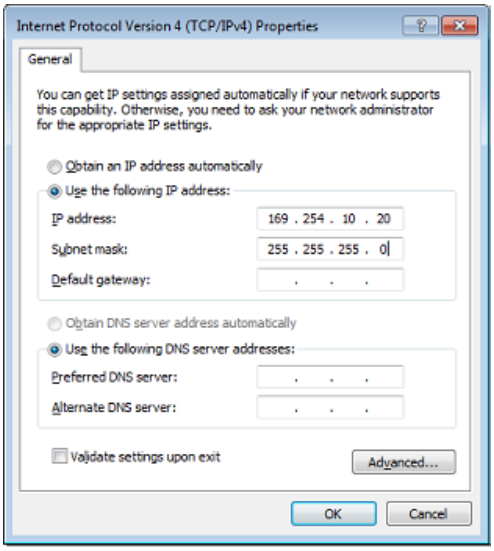
3. Click Properties.



4. On the Networking tab, select Internet Protocol Version 4 (TCP/IPv4), then click Properties.



5. Make a note of the computer's current IP address (if specified), so you can restore it after finishing the Avid NEXIS setup.
6. Click **`Use the following IP address:`** and enter 169.254.10.20, with a subnet mask of 255.255.255.0, then click OK.

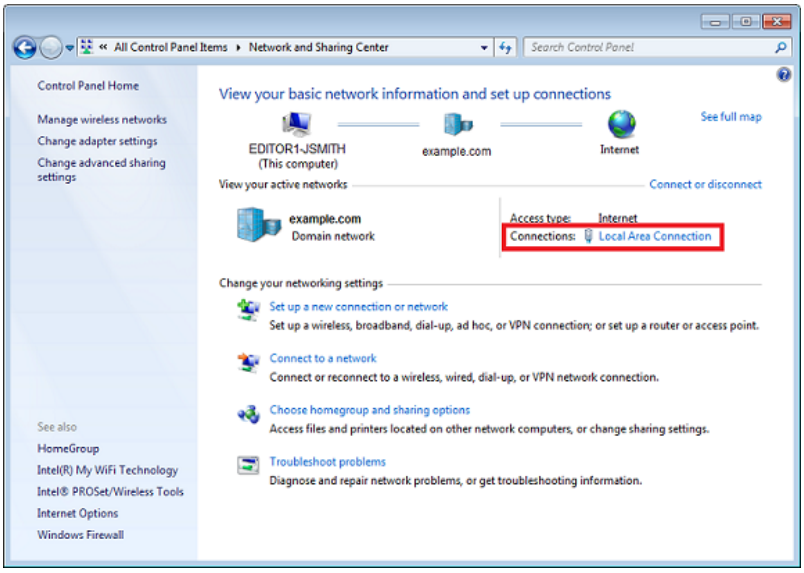


By default, the Controller IP address on every Avid NEXIS system is set to 169.254.10.10. You must set the IP address of the computer to 169.254.10.xx, where xx can be anything ***except*** *10. This example uses 169.254.10.20.*

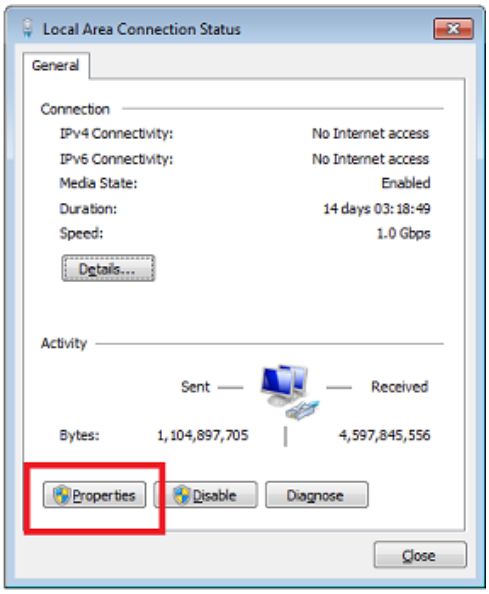
7. Click Close to exit the Properties dialog.
8. Click Close to exit the Local Area Connection Properties dialog.
9. Close the Control Panel.

To restore the computer's previous IP address:

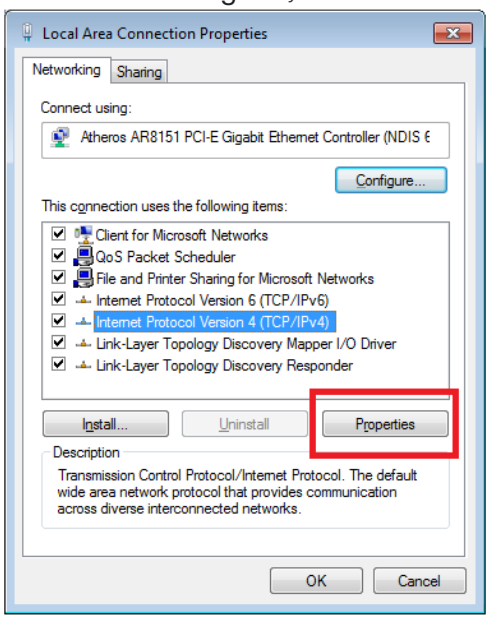
1. Open the Windows Control Panel Network and Sharing Center.
2. Click Local Area Connection.



3. Click Properties.



4. On the Networking tab, select Internet Protocol Version 4 (TCP/IPv4), then click Properties.



5. Enter the previous IP address (if it was specified) or click **Obtain an IP address automatically**.
6. Click Close to exit the Properties dialog.
7. Click Close to exit the Local Area Connection Properties dialog.
8. Close the Control Panel.

Installing the Software

Always start with the SDA+, if applicable. For configurations with no SDA+, configure the first Engine to run as the System Director for the remaining members of the shared-storage system.

⚠ **Do not fully insert redundant Controllers until *after* installing the software, rebooting the system, and completing the initial configuration.**

To install the software:

1. Connect a standard Ethernet cable between the computer and the Management Interface port on the Controller of the System Director Appliance if applicable, or the first Engine you are setting up.

   If two Controllers are installed, **connect to only one** of the following:

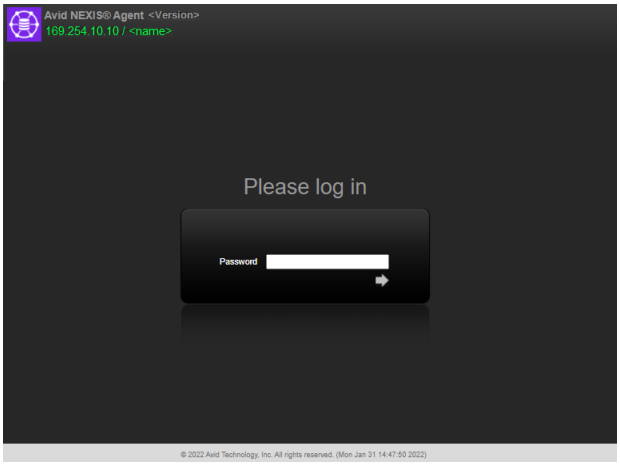
   - The Controller in the top slot in a 2U (F2, PRO+, or SDA+)
   - The Controller in the left slot in a 5U

   See "Avid NEXIS F-Series Controller Features and Identification" on page 13 or "Avid NEXIS E-Series Controllers and Identification" on page 16 to identify the Management Interface port for the Controller in your model.

2. On the computer, open a new browser tab and go to https://169.254.10.10:5015

   You might see a warning about the site's security certificate. Double-check the IP address, and if it is correct, click **`Continue to this website`**.

3. At the login screen, enter the default Agent password. (See "Controller (Agent) Password " on page 19.)



4. On the Install page, click Choose File and navigate to the location on the computer where you downloaded and extracted the Avid NEXIS software kit contents.
5. Select the file named AvidNEXISSetup_<version>.bin, then click Submit.

   The Engine installs the software and reboots, displaying messages about the installation progress and the time until the system will reboot.
6. Continue with "Configuring the Engine or SDA+" below.

   When changing the configuration, do not use the same web browser session used for the installation. Instead, open a new browser tab and log back into the Agent.

Configuring the Engine or SDA+

This procedure completes the configuration of the Engine or SDA+, which includes assigning a system name and IP addresses, configuring the Controller network interfaces, setting up a DNS server (required for online license activation), setting the system date and time, and changing the default Administrator password.

This procedure covers creating a standalone system (one Engine operating independently) or a shared-storage system of multiple Engines and the SDA+ if applicable.

Repeat this procedure for every Engine you are adding to your environment.

During initial system setup, you can configure the IP address and other information for a redundant Controller even if you do not have one yet. See "Controllers and I/O Modules" on page 12 to determine if your model supports redundant Controllers.

Do not fully insert redundant Controllers until *after* installing the software, rebooting the system, and completing the initial configuration.

To complete the configuration:

1. After installing the software, open a new browser tab and log back into the Agent.

   The setup wizard starts on the CONFIGURE screen. All fields marked with a red asterisk are required. Some fields, while marked Optional, might be required for licensing the Engine using the online method later.
2. In the Engine area:

a. Type a Storage System Name. This is the name of the shared storage system containing one or more Avid NEXIS Engines, including the System Director Appliance, if applicable.

Make sure all the Engines/SDA+ that will belong to the same shared-storage system have the same Storage System Name.

b. (Optional) Type a value or use the up and down arrows to set an Enclosure ID for the Engine and if applicable, the Expansion chassis, which will be displayed on the control panel; see "Front Views" on page 19. For example, in a four-Engine configuration, you could number them 01 through 04. If you do not enter a value, the default value (two dashes, or --) is displayed.

c. Enter a name for the Engine or SDA+. The Engine name is used to generate the host names for the Controllers, which appear in the fields for Top and Bottom Controllers or Left and Right Controllers, as applicable.

Each Engine or SDA+ has a unique Engine name. Only the Storage System Name is common to all members in a shared-storage system.

3. In the System Director area:

a. Select the option to the **Run System Director** only if this is the **first** Engine in a configuration that will not use a System Director Appliance.

This option is not present on a System Director Appliance or on a 5U Engine, which cannot run as its own System Director. All 5U Engines require the use of a System Director Appliance.)

b. (**Applies only to chassis with redundant Controllers**) Enter an IP address for the System Director that is different from the Controller IP addresses.

If the Engine (or SDA+) has a single Controller, the Controller IP address will also be the System Director IP address. For more information, see "System Director Name and IP Address" on page 43.

Make a note of the System Director IP address; you will need it in a later step.

4. In the Data Interfaces area:

a. (**For a single Controller**) Enter the IP address, netmask, and gateway you received from your IT administrator.

b. (**For redundant Controllers**) Enter the IP address in the field for the bottom or right Controller. (A second Controller inherits the netmask and gateway information from the first.)

You can enter information for a second Controller before or after physically installing it.

c. If using LACP (see "System Setup Information" on page 41), select the option for Link Aggregation.

5. Leave the Management Interfaces section as is.

6. Configure a DNS server if you plan to activate the license using the online method.

Rental houses can temporarily configure the Engine to use their in-house DNS server, and the end customer can change it to their own DNS server later (either in the Agent or the Management Console).

a. In the DNS Domain field, type the DNS domain name for your environment.

b. In the DNS Server list field, type the IP addresses, separated by spaces, for one or more DNS servers in your environment.

c. In the DNS Search List field, you can enter alternate DNS names, separated by spaces, that are used in your environment. These will be used to help resolve the System Director name in a browser.

7. Click Next.
8. On the Time screen:

a. (Optional but strongly recommended) Configure one or more NTP servers.

In a multi-Engine configuration, enter the same NTP server or time information on all Engines and the System Director Appliance, if applicable.

Rental houses can omit configuring an NTP server but are strongly advised to set the local time on each Engine and SDA+ before delivery to their end customers.

b. Manually set the current date and time using 24-hour format (for example, for 4 PM enter 16:00) and select the appropriate time zone from the list, even if you configured NTP servers. Otherwise, when the system reboots and the NTP server time is applied, a large time adjustment might be necessary, which can cause problems later.

9. Click Next.
10. Change the default Administration password for the Agent. The password can be up to 8 ASCII characters long. If the New Password and Confirm Password values do not match, a warning is displayed.

The Agent password can also access the Management Console. (After a file system is created, the administrator password for the Management Console can also log into the Agent.) Changing the Agent password improves system security and enables Avid support personnel to remotely connect to the system when necessary.

Enter the same password on all members of the same shared-storage system.

11. Click Finish.

    The system reboots to complete the configuration.

To run the wizard again (for example, to confirm your entries or to make changes), open the Agent and click Wizard on the CONFIGURE tab.

12. To configure more hardware, connect the computer to the Management Port on the next Engine.

You do not need to change the computer's IP address again. The IP address you configured earlier is the same for all Avid NEXIS Engines you are configuring.

13. Install the software on the next Engine if applicable (see "Installing the Software" on page 48) and repeat this procedure.
14. When you have configured all the equipment, disconnect the computer. You can optionally restore the computer's IP address to what it was originally; see "Configuring the Computer's IP Address" on page 45.

Make sure nothing remains connected to the Management Interface port. This port does not support media traffic or access to data stored on the system.

If you are a rental service, you can activate the modular license for the Engines but do not need to continue with the rest of this Setup Guide. Refer to the Avid NEXIS Administration Guide for activating the licenses and the final on-site configuration.

Activating a Modular License

Avid NEXIS | VFS version 2023.7.0 introduced modular licenses for F-Series Engines and the PRO+. You can activate a modular license before or after adding the Engine to an existing shared-storage system.

For Avid NEXIS | F2, the modular license is activated only on the F2 and applies to an F2X, regardless of when they are paired.

If two Controllers are installed, use the IP address of the top Controller (in a 2U) or left Controller (in a 5U). In the PRO+, only one Controller is supported, and is installed upside-down in the bottom slot.

Make sure to activate the correct license for the Engine you are logged into. Once the license is active, you cannot remove it without help from Customer Care.

To activate a Modular License:

1. In a browser, type the IP address of the Controller in the Engine.
2. On the Login screen, enter the Administrator user name and the password.

   The Management Console opens in Engine mode (no System Director is running). Engine mode supports only two operations: installing the software and activating the license.
3. Do one of the following:
   - For ONLINE activation:
     a. Click the blue License tab.
     b. In the Activation section, select the Online Activation Method.
     c. Type (or copy and paste) the Activation ID and System ID (for new systems only) you received from Avid.
     d. Click **Activate**.
     e. In the confirmation dialog, click **Continue**.
     f. The system licensing process starts. When complete, click **Close**.
   - For OFFLINE activation:
     a. In a separate browser tab, go to the following page: https://avid.com/license
     b. Type the Activation ID you received from Avid and the Device ID from the Avid NEXIS system.

        The Activation ID is verified, and the System ID field is displayed.
     c. Type (or copy and paste) the Device ID from the Management Console and the System ID you received in the email from Avid.
     d. Type your email address, then click **Submit**.

        A license file is created.
     e. Click **Download** to save the license file to the computer.
     f. In the Management Console, click the blue License tab.
     g. Select the Offline Activation method.

h. Type (or copy and paste) the Activation ID and the System ID you received in the email from Avid.

i. Click **Choose File** and navigate to the location of the license file.

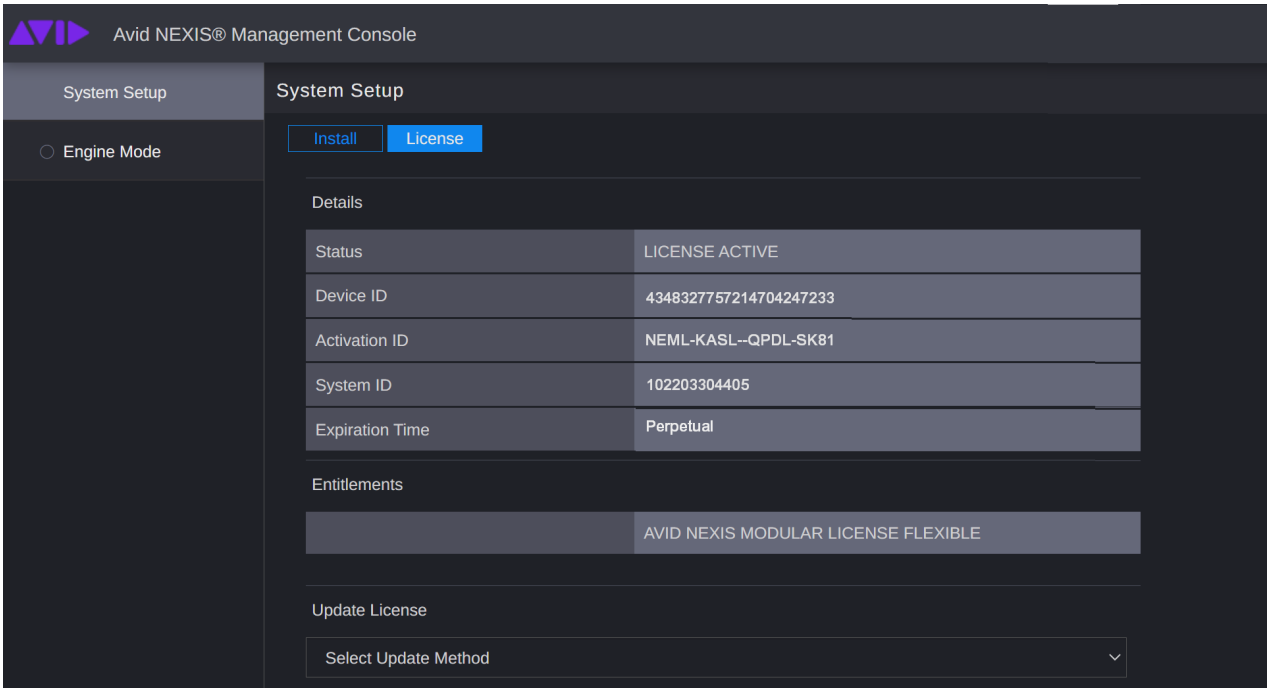
j. Click **Activate**.

k. In the Warning dialog, click **OK** to continue..

The Engine reboots to complete the activation process.

4. Log back into the Management Console and confirm the license information.

The Entitlements field displays the license type, and the Details pane fields show the information for this license.



You can add it to an existing shared-storage system or use it as a standalone system (if configured to run the System Director service). You can bind the Media Packs in the Engine with no effect on the system capacity license (if applicable).

Using Link Aggregation (LACP)

If your environment supports and requires it, you can configure link aggregation (also called redundant networking, NIC teaming, link bundling, or port trunking) on the network ports on each Controller, which provides redundancy in case one network port fails.

The Avid NEXIS implementation follows the Link Aggregation Control Protocol (LACP) standard.

Link aggregation is not supported on Avid NEXIS | PRO+ or Avid NEXIS | PRO 40TB.

LACP is supported with one or two Controllers, but if two Controllers are present, it must be enabled on both. The Ethernet ports on all installed Controllers must be connected to one or more supported switches.

The overall process for enabling LACP is as follows:

1. Configure link aggregation on the switches. See your switch documentation for details.
2. Log into the Agent on each Controller in the SDA and Engines, as applicable, using each Controller's unique IP address, to enable link aggregation (see "Installing the Software" on page 48).

3. Connect the System Director Appliance and Engines to the switches (see "Connecting the Equipment to a Switch" below).

Connecting the Equipment to a Switch

See the *Avid NEXIS Network and Switch Guide* for the currently supported switches, cables, and transceivers for use with Avid NEXIS. Refer to the figures in "Controllers and I/O Modules" on page 12 to identify the switch (data) ports for your model.

When connecting an Engine to a single switch, use only the Primary Data Port on each Controller (see "Avid NEXIS F-Series Controller Features and Identification" on page 13 or "Avid NEXIS E-Series Controllers and Identification" on page 16).

Considerations for High Performance Media Packs in Paired F2/F2X

Two High Performance Media Packs in a paired Avid NEXIS | F2 and Avid NEXIS | F2X configuration use more aggregate bandwidth than a 1 x 10GbE connection can support. You must use 25GbE for single Controllers, or dual 10 or 25GbE connections (with LACP) for single or dual Controllers.

To maximize the bandwidth required for High Performance Media Packs, connect them to a suitable switch as follows:

- 2 x 10GbE with LACP enabled on the Avid NEXIS | F2 single or dual Controllers
- 1 x 25GbE with no LACP configured, or 2 x 25GbE with LACP configured on the Avid NEXIS | F2 single or dual Controllers

See "Using Link Aggregation (LACP) " on the previous page and the figures in "Dual LACP Connections" below.

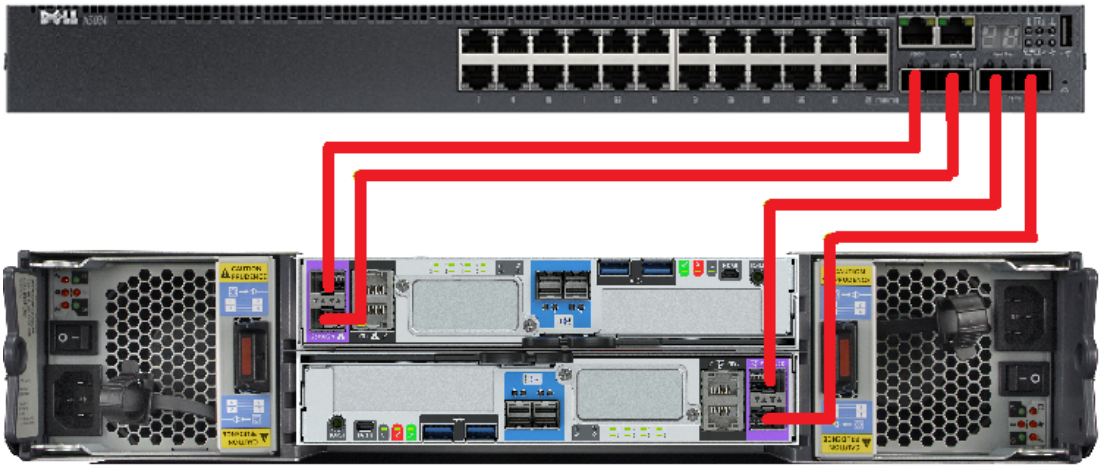
All the Engines and the System Director Appliance must be connected to supported, networked switches to complete the system configuration (described in the Avid NEXIS Administration Guide).

Dual LACP Connections

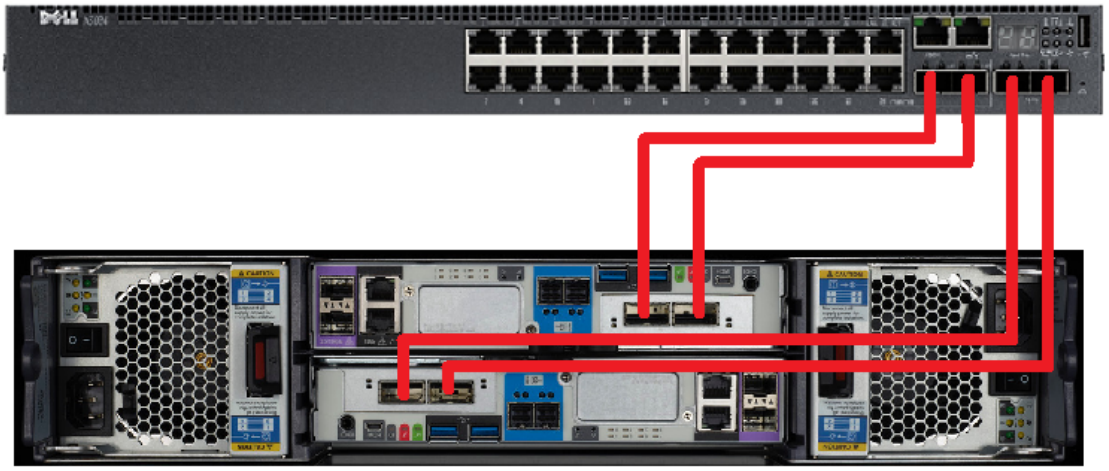
The following figures show how to connect cables between the network ports on the Controllers and an LACP-enabled switch.

Avid NEXIS | PRO+ and Avid NEXIS | PRO 40TB do not support LACP.

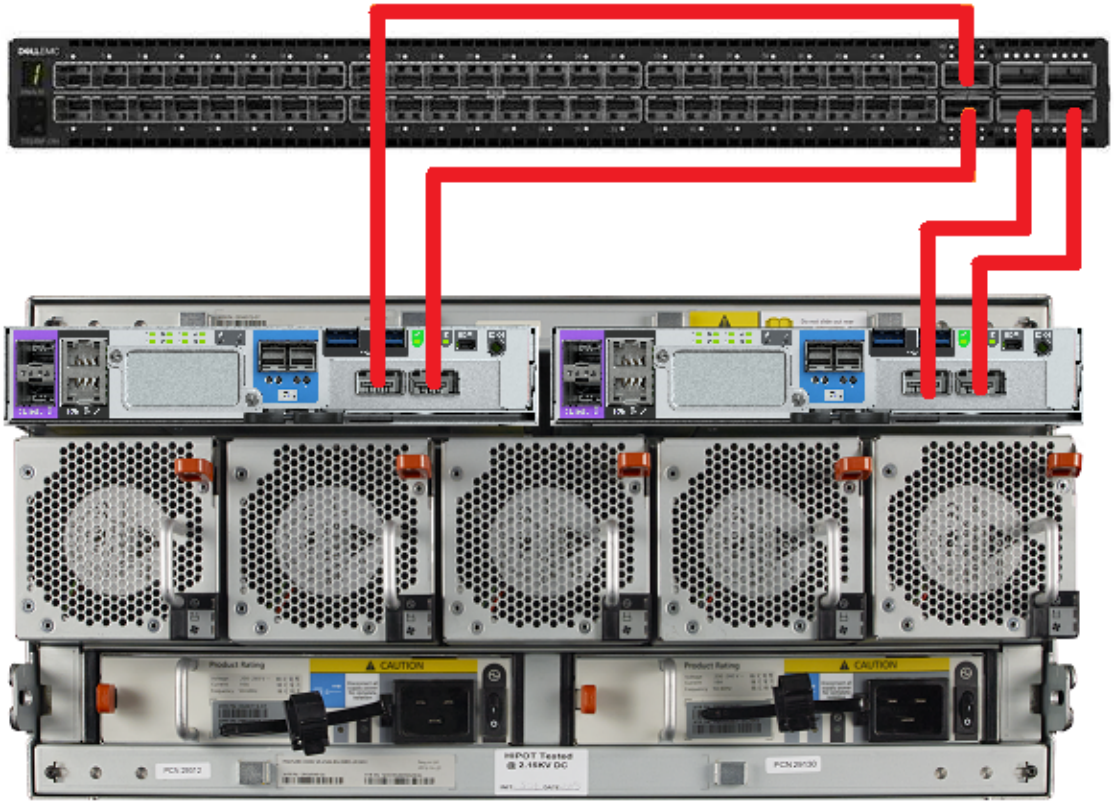
Dual LACP Connections to Avid NEXIS | F2, Avid NEXIS | SDA+



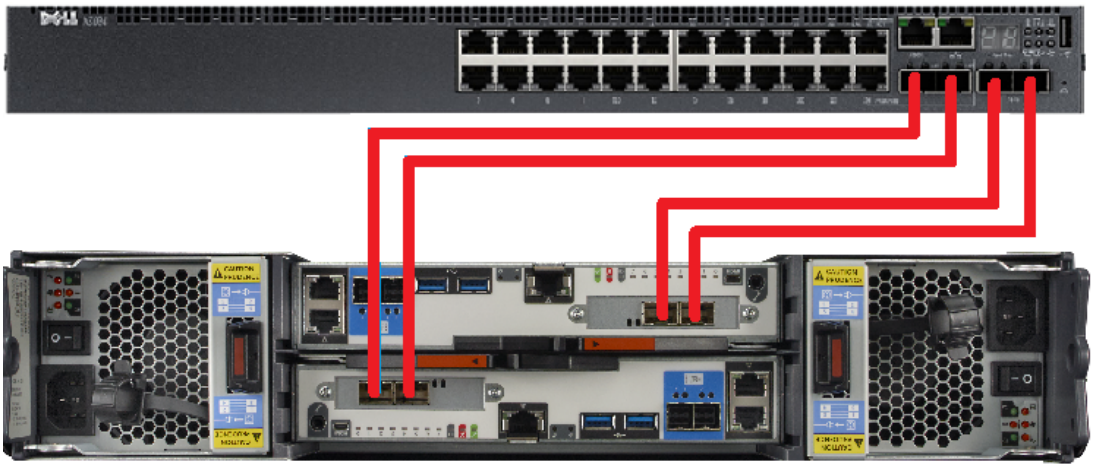
Dual LACP Connections to Avid NEXIS | F2 SSD



Dual LACP Connections to Avid NEXIS | F5, Avid NEXIS | F5 NL

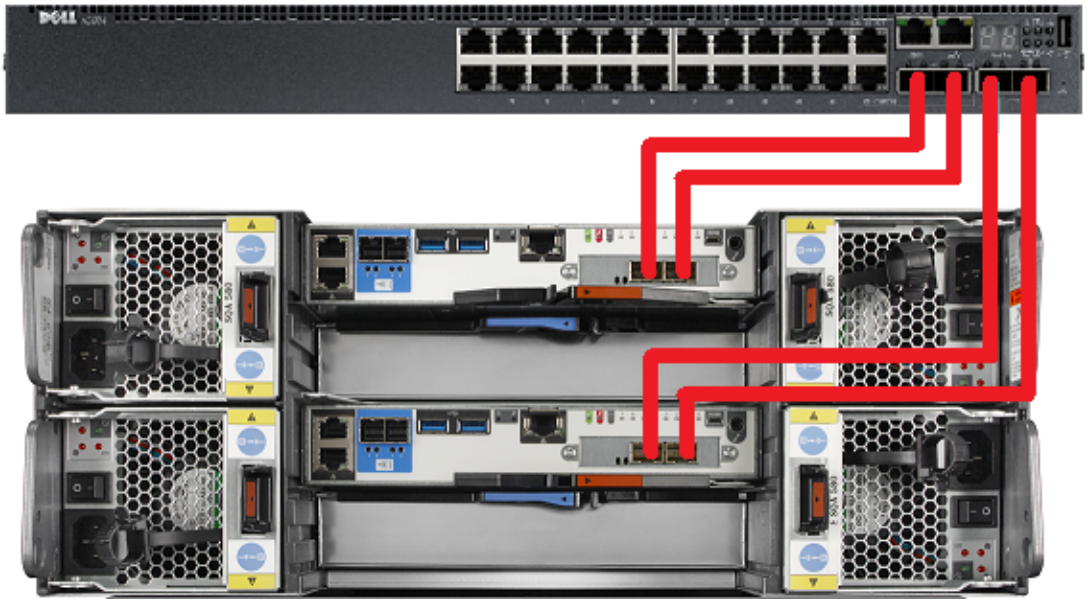


Dual LACP Connections to Avid NEXIS | E2, Avid NEXIS | E2 All-Mirror, Avid NEXIS | SDA, or Avid NEXIS | E2 SSD



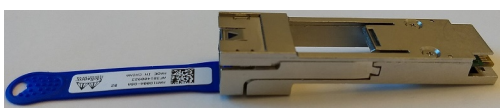
Avid NEXIS | E2 SSD supports LACP but only one Controller, upside-down in the bottom slot.

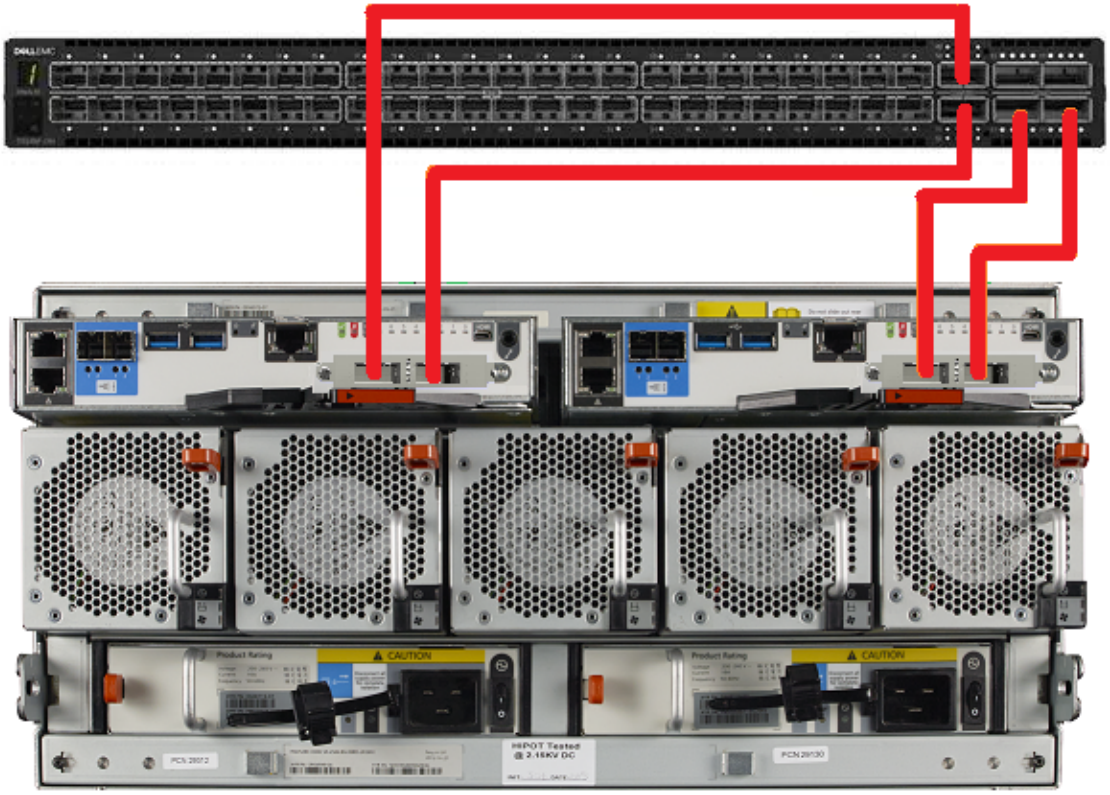
Dual LACP Connections to Avid NEXIS | E4, Avid NEXIS | E4 All-Mirror



Dual LACP Connections to Avid NEXIS | E5, Avid NEXIS | E5 All-Mirror, or Avid NEXIS | E5 NL

Use the supplied QSFP to SFP+ adapter (shown in the following figure) to connect an Avid NEXIS | E5 NL to a 10GbE switch.





4 Adding and Replacing Hardware

The Avid NEXIS shared-storage system is designed to remain operational if a component fails. You can expand your system (add an Engine, add more Media Packs) to the existing file system in real time, as specified by your system configuration (see the Avid NEXIS ReadMe for configuration limits).

Do not add new hardware if there are any issues with the system. Correct all problems before adding new hardware or making changes to the system, and perform quick checks to verify that the system is in good working order.

Do not lift the chassis by the handles on the power supply units—they are not designed to support the weight.

Always have available a replacement or blank module before removing the old module. When you replace a module, do not leave a bay empty for more than 10 minutes.

Use a suitable anti-static wrist or ankle strap and observe all conventional ESD precautions when handling plug-in modules and components.

You can replace most hardware components without disrupting the system operation.

Collecting Logs for Customer Care

To help Avid evaluate returned components, collect any available system logs from the time the failure occurred, including any event or error messages, and send them to your Customer Care representative when ordering a replacement part.

To collect system logs:

1. In the Management Console, click Logs, then Event History.
2. Click Download.

   A file named history.zip is created and saved to your default downloads directory.
3. Mention this file when ordering a replacement part. Your Customer Care representative can provide information on how to send that file to Avid.

Understanding Hardware Faults

LED colors are used consistently throughout the Engine and its components for indicating status:

- Green – good or positive indication
- Flashing green/amber – non-critical condition
- Amber – fault

Make sure that you have obtained a replacement before removing any faulty component.

Observe all conventional ESD precautions when handling Engine modules and components.

If the System Director Appliance and Engine are not communicating:

- Verify that the network cables from the Engine and the System Director are connected to the same switch.
- Check the indicators on the Controller (see "Avid NEXIS F-Series Controller Features and Identification" on page 13 and"Avid NEXIS E-Series Controllers and Identification" on page 16).

Adding an Engine to a System

You can add more Avid NEXIS Engines to your infrastructure to increase available space and allow for more flexible configurations. See the Avid NEXIS ReadMe for the limits on the number of Media Packs supported in your configuration.

An Avid NEXIS system can contain:

- All Avid NEXIS | PRO, or all Avid NEXIS | PRO+, or a combination
- All Avid NEXIS | E Series, or all Avid NEXIS | F Series, or a combination, with or without a System Director Appliance

⚠ To mix F-Series Engines and E-Series Engines or PRO and PRO+ in the same configuration, you must update the system to version 2022.5.0 or higher.

⚠ To add Engines with Modular Licenses to an existing system using a capacity license, upgrade the system to version 2023.7.0 or higher.

You configure the new Engines to join the existing Avid NEXIS shared-storage system file system, which is designed for system expansion. For more information, see "Avid NEXIS System Overview" on page 10.

⚠ Do not create a new file system as part of adding new Engines to the system. Creating a new file system where one already exists is a permanently destructive operation, akin to reformatting the hard drive in a computer. All your Workspaces, containing all your media files, clips, project and bins, sound files, and all other media are permanently and irrecoverably destroyed. All system configuration, users and user groups, Storage Groups and Media Packs are deleted and must be re-created. There is no recovery.

After you add new Engines to the system, bind the new Media Packs and add them to an existing Storage Group or create a new Storage Group.

Before You Begin:

Log in to the existing system and make a note of the following information:

- Storage System Name
- Avid NEXIS version
- IP Address, netmask, and gateway assigned to the Controllers in all Engines in the shared storage system

To add Engines to an existing shared storage system:

1. Rack-mount the chassis and connect the power cables as described in "Connecting the Equipment" on page 34.
2. Connect one or more network cables (depending on the number of Controllers) to the same subnet on the switch currently used by the existing Avid NEXIS system.
3. Turn on the new chassis.
4. Connect a laptop or local computer to the Management Port on the Controller *in the chassis you are adding* (the top or left Controller, if there are two) and configure the computer's IP address to 169.254.10.20 and the subnet to 255.255.255.0.
5. Launch a browser and open the Agent on the new chassis: `https://169.254.10.10:5015`.
6. Download and install the same Avid NEXIS software version that is running on the existing shared storage system. As part of the software installation, the chassis reboots.

7. After the chassis restarts, reopen the Agent and configure the new system, with the following information:
    a. Enter the **same** Storage System Name as the existing shared storage system it is joining.
    b. Enter a name for the new chassis in the Engine Name field, and optionally enter an Enclosure ID.
    c. Do not check the box to “Run as System Director.”
    d. In the Data Interfaces section, enter an IP address for the Controller (or both Controllers, if applicable) **in the same subnet as the existing shared storage system**. If using redundant Controllers and LACP, check the Link Aggregation box.
    e. Click Submit.

    The new chassis reboots again.
8. (Applicable to Avid NEXIS | VFS version 2023.7.0 and higher) Activate the modular license on the new Engine or PRO joining the system. See "Activating a Modular License " on page 52.
9. When the system restarts, log in to the Management Console **for the shared storage system**. The new Engine appears in the Engines list with unbound Media Packs.
10. Bind the Media Pack (or Packs) to the **existing file system**.

    ⚠ **DO NOT CREATE A NEW FILE SYSTEM ON THE EXISTING SHARED STORAGE SYSTEM.**
11. Add the Media Pack (or Packs) to an existing Storage Group or create a new Storage Group. See the *Avid NEXIS Administration Guide* for more information.

    If you add the Media Packs to an existing Storage Group, redistribution will begin.

Adding an Avid NEXIS | F2X (Expansion Chassis) to a System

If you have an Avid NEXIS | F2 in your configuration, you can add an Avid NEXIS | F2X expansion chassis. Instead of Controllers, the Avid NEXIS | F2X contains two I/O modules that connect to the Controllers in the Avid NEXIS | F2 with the supplied SAS cables.

Make sure your capacity license has enough available space to bind the new Media Packs. If necessary, purchase or update your license from Avid. If the Media Packs are part of or paired with an Engine with a modular license, no additional purchase or update is necessary.

The paired Avid NEXIS | F2 and Avid NEXIS | F2X are the equivalent of an Avid NEXIS | E4.

To add an Avid NEXIS | F2X to a system:

1. Rack-mount the Avid NEXIS | F2X and connect the cables as described in "Connecting the Equipment" on page 34.
2. Using the supplied SAS cables, connect the top Controller in the Avid NEXIS | F2 to the top I/O module in the Avid NEXIS | F2X. If applicable, connect the bottom Controller to the bottom I/O module. See "Rack-Mounting the Equipment" on page 34 for a figure showing the cable connections.
3. Turn on the power supplies in the Avid NEXIS | F2X.
4. In the Management Console, verify that the Avid NEXIS | F2X information is displayed on the Engines page, in the Details section (Edit mode). Make sure the serial number and enclosure ID are listed for the Avid NEXIS | F2X and the Avid NEXIS | F2 it is paired with.
5. Bind the Media Pack in the Avid NEXIS | F2X to the file system and add it to a Storage Group. See the Avid NEXIS Administration Guide for more information.

Adding Media Packs to an Engine

You can add Media Packs to an Engine that is not fully populated, up to the limits based on your system configuration and system capacity license entitlements, if applicable. When bound to the file system, the Media Packs automatically become part of the Avid NEXIS shared-storage system, and are available to add to an existing Storage Group to increase its capacity, or to create a new Storage Group.

Make sure your capacity license has enough available space to bind the new Media Packs. If necessary, purchase or update your license from Avid. If the Media Packs are part of or paired with an Engine with a modular license, no additional purchase or update is necessary.

As a best practice, add Media Packs with the same capacity drives as the other Media Packs in your system. However, if you want to increase the total capacity of a Storage Group, you can add larger Media Packs and remove the smaller Media Packs. After you remove the last smaller-capacity Media Pack, the Storage Group expands to use the extra space. See the Avid NEXIS Administration Guide for more information.

If your system contains spare drives and you plan to add more drives of a different capacity, Avid recommends temporarily removing the spare drives before installing the new Media Pack drives. This prevents the system from assembling a Media Pack from mixed drive sizes, resulting in a Media Pack capacity based on the smallest of its drives.

Adding a Media Pack to an Engine (2U and 4U)

You can add drives in any available slots. The system combines any 10 unassigned drives into a Media Pack automatically.

To add a Media Pack to a 2U or 4U Engine:

1. Remove the bezel by inserting your fingers into the rectangular openings on the front of the bezel and gently pulling. The bezel is held in place by small plastic tabs that latch onto the face of the Engine.

   On the 2U chassis, there are also two small metal posts that snap into holes on the front of the chassis.

2. For each drive, do the following:
   a. Remove the blank drive plate.
   b. Fully open the drive latch.
   c. Insert the media drive into the slot with the latch pointing left (if drive slots are horizontal) or pointing upwards (if drive slots are vertical).
   d. Push the media drive in and push the latch inward until the drive locks in place.
   e. Lock the media drive.
3. Reattach the bezel.

Adding a Media Pack to an Engine (5U)

Two system drives are preinstalled in all 5U Engines. You can insert new Media Pack drives into any available slots; see "Installing Media Packs in 5U Chassis" on page 39 for recommendations on how to populate the drive drawers. The system combines any 10 unassigned drives into a Media Pack automatically.

To add a Media Pack to a 5U Engine:

1. Open the appropriate drawer.
2. For each drive in the Media Pack, and the included spares:
   a. Lower the drive into the slot with the drive capacity label facing towards you.
   b. Push the drive downwards and hold it down while sliding the drive carrier plate in the direction shown in the following figure. This locks the drive in place.

   Make sure the drive is securely locked into place before closing the drawer. Unlocked drives can open due to chassis vibration and lift up enough to prevent the drawer from opening. Forcing the drawer open will damage the drive and the chassis.
3. When all the drives are installed, close and lock the drawer.

About Drive Failures

When any drive fails, the drive fault LED illuminates (see "Media Pack and System Drives" on page 24) and the Management Console and Agent display an error (see the Avid NEXIS Administration Guide).

Leave failed drives in place until you have a replacement so you maintain the proper airflow. Obtain a replacement as soon as possible. Avid recommends not storing drives for longer than 6 months before first use.

Media Pack drives and system drives have different effects on the system when they fail:

- If one system drive fails, the Avid NEXIS Engine continues to operate, but you should replace the failed drive as soon as possible.
- If both system drives fail, the Engine stops operating because no metadata for writes can be recorded.
  - In a mirrored configuration, if both system drives fail in the same Engine, the system continues to operate.
  - In a non-mirrored configuration, the loss of one Engine results in the failure of the entire Storage Group.

The impact to Workspaces from a Media Pack drive failure depends on the Engine Protection mode (Workspace mirroring), and the Media Pack Protection Mode on the Workspaces. The following table lists the highest to lowest protection for a Workspace.

Workspace Protection	Failure Tolerance
Mirror + Two Disk	Workspace remains available if up to 5 drives fail, in any Media Pack(s), or the loss of one Engine
Mirror + One Disk	Workspace remains available if up to 3 drives fail, in any Media Pack(s), or the loss of one Engine
No Mirror, Two Disk	Workspace remains available if up to two drives fail in any Media Pack(s)
No Mirror, One Disk	Workspace remains available if up to one drive fails in any Media Pack(s)
No Mirror, Unprotected	Workspace (and media) are not recoverable if any drive fails *Creating Workspaces with no Media Pack protection is no longer supported. Information provided for legacy Workspaces only.*

If a hot spare drive is available, after a short delay the Media Pack status changes to `Drive rebuilding`. Media Packs are also rebuilt when a drive is removed from the Engine for any reason.

When a new drive is inserted, the system automatically rebuilds the Media Pack or formats and partitions the new system drive, as applicable.

Identifying the Slot Number for a Failing or Failed Drive

When a drive is failing or has failed, its status is displayed:

- In the System Dashboard
- On the Engines page in the Storage menu. Click **Advanced**, then click the Disks tab. The slot number is shown in the disk details table.
- On the Media Packs pane in the Storage menu. Click **Advanced**, then click the Disks tab. The slot number is shown in the disk details table.

Replacing a Drive

Always use an appropriate drive from Avid of the same size as, or larger than, the failed drive. For more information, see "Media Pack and System Drives" on page 24.

Do not use a system drive from another Engine or System Director Appliance as a replacement. The system drives operate as a pair, and contain metadata from the original system they belonged to. Using a system drive from another chassis, even if new and never deployed, will cause problems because the system drives are initialized as a mirrored pair during the manufacturing process.

You can use a drive from another Avid NEXIS Engine, but if it previously belonged to a Media Pack, you must clear its configuration before the new Engine can use it. See the Avid NEXIS Administration Guide for information about clearing a foreign disk error.

The replacement drive must be the same size as the failed drive or larger. For example, in a Media Pack, you can use a 10TB HDD to replace a failed 6TB HDD. However, the Media Pack will use only 6TB of the space on the larger drive. You cannot replace a larger drive with a smaller one.

If your Media Packs are bound with a capacity license, and you are replacing individual drives (or all the drives in a Media Pack) with larger ones, you might need to update your license to support the extra capacity.

If you accidentally remove the wrong media drive while the Media Pack is reconstructing data for a failed drive, and client I/O is active, all client activity might stop after a brief delay as the system starts another reconstruction process. You can safely reinsert the drive within five minutes of removing it, and then remove the failed drive.

If a system drive fails, the system remains running as long as the other system drive is operating. If both system drives fail, the system shuts down.

After you replace a failed system drive, metadata reconstruction starts. The rebuild progress is displayed on the System Status Console in the Management Console. On an idle system, the rebuild typically completes within 20 minutes for a 400 GB drive. If the system is busy, the rebuild time can increase significantly, up to 40 hours if clients are performing heavy I/O (especially writes) during the entire rebuild process.

Removing a Drive (2U and 4U Chassis)

To remove a drive:

1. Remove the bezel by inserting your fingers into the rectangular openings on the front of the bezel and gently pulling. The bezel is held in place by small plastic tabs that latch onto the face of the Engine.

   On the 4U chassis, there are also two small metal posts that snap into holes on the front of the chassis.

2. Identify the drive to be replaced by looking for the amber LED on the drive that indicates a fault; see "Media Pack and System Drives" on page 24.
3. Make sure the anti-tamper locks are not engaged. The red lock symbol is visible if the drive is locked (see "Drive Types and Sizes" on page 25). Unlock them if necessary by rotating them counterclockwise using a screwdriver with a Torx T20 bit.
4. Push the drive carrier latch in the direction of the white arrow.
5. Open the drive latch and pull the drive out of the slot.

Inserting a Drive (2U and 4U Chassis)

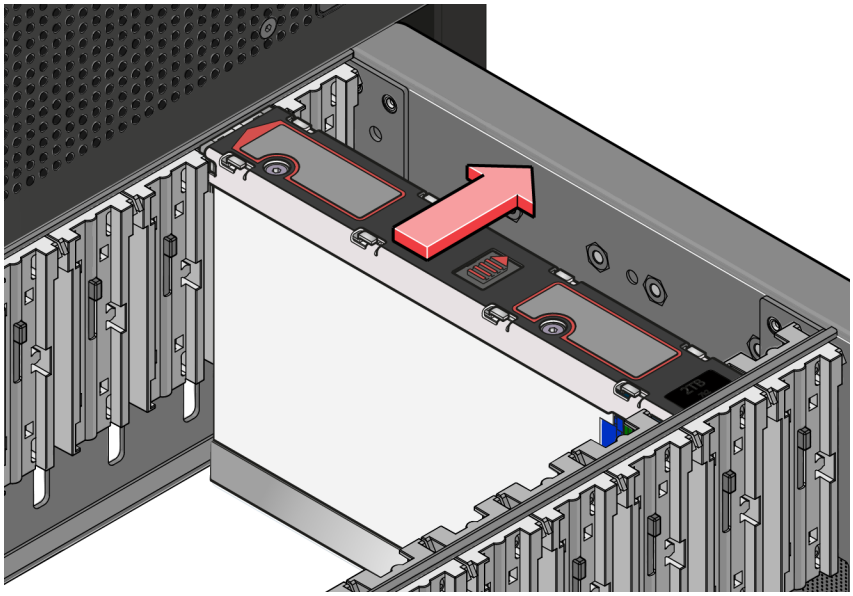
To insert a drive:

1. Fully open the drive latch.
2. Insert the drive into the slot with the latch pointing left (if drive slots are horizontal) or pointing upwards (if drive slots are vertical).
3. Push the drive in and push the latch inward until the drive clicks into place.
4. Lock the drive.
5. Gently snap the bezel onto the front of the chassis.

Removing a Drive (5U Chassis)

To remove a drive:

1. Identify the drawer containing the failed drive; see "Front Views" on page 19.
2. Open the appropriate drive drawer and identify the failed drive by its LED. (See "Media Pack and System Drives" on page 24.)
3. Push the drive carrier latch in the direction shown in the following illustration to unlock the drive.



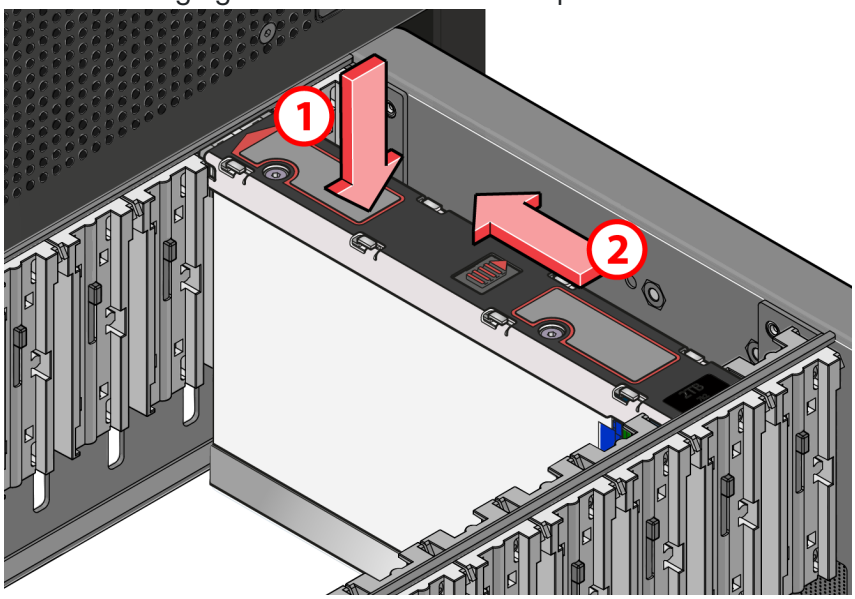
4. Pull the drive upwards and out of the drawer.

If you are not going to replace the drive immediately, close the drawer so that correct airflow and cooling are maintained in the Engine.

Inserting a Drive (5U Chassis)

To insert a drive:

1. Open the appropriate drawer.
2. Lower the drive into the slot with the drive capacity label facing towards you.
3. Push the drive downwards and hold it down while sliding the drive carrier plate in the direction shown in the following figure. This locks the drive in place.



Make sure the drive is securely locked into place before closing the drawer. Unlocked drives can open due to chassis vibration and lift up enough to prevent the drawer from opening. Forcing the drawer open will damage the drive and the chassis.

4. Close and lock the drawer.

Adding a Redundant Controller

If your model supports it, you can order and install a redundant Controller for a Engine or System Director Appliance. You can install the redundant Controller at any time, even if the Engine or System Director Appliance is already mounted in a rack and operating.

For systems running (or upgraded to) Avid NEXIS version 2024.5.x, see "Version Incompatibility with Replacement Controllers and Avid NEXIS version 2024.5.0" on the next page.

Do not fully insert redundant Controllers until *after* installing the software, rebooting the system, and completing the initial configuration.

Installing a redundant Controller has no effect on the system license. No additional license is required.

During initial system setup, you can configure the IP address and other information for a redundant Controller even if you do not have one yet. See "Controllers and I/O Modules" on page 12 to determine if your model supports redundant Controllers. Do not install (or fully seat) the second Controller until you have configured its IP address as described in the following procedure.

Both Controllers in an Engine must be the same type, with the same label. In particular, make sure that both Controllers in an Engine have the same amount of memory. Installing Controllers with different memory capacities in the same Engine is not supported. See "Controllers and I/O Modules" on page 12 for more information.

For highest availability, Avid recommends using a redundant Controller in all Engines and System Director Appliance, if applicable, in the entire shared storage system. However, you can add a redundant Controller in the System Director Appliance alone, to ensure the System Director service remains running in case the Controller fails.

To install and use a redundant Controller (repeat procedure for each applicable Engine and the System Director Appliance):

1. **Before physically inserting a second Controller**, upgrade the Engine or the System Director Appliance to the current release if possible. See the Avid NEXIS Administration Guide for more information on upgrading your system.
2. Configure the second Controller as follows:
    a. Open the Management Console and click System, then System Setup.
    b. Click the blue Interfaces tab.
    c. Enter the IP address for the redundant Controller.
    d. (Optional) If you plan to enable link aggregation (LACP) on the Controller, see the Avid NEXIS Administration Guide before checking the box.
    e. Click Save.
3. Remove the blank plate covering the empty Controller slot.
4. Install the redundant Controller as follows:
    a. Open the release latch on the new Controller all the way.
    b. Note the correct orientation of the Controller for the system you are adding it to:
    c. In the 2U chassis the redundant Controller is installed upside down. See "Rear Views" on page 21.

d. In the 4U chassis the redundant Controller is installed right side up, in the third slot from the top (leaving a one-slot gap between the first and redundant Controllers). See "Rear Views" on page 21.

e. In the 5U chassis the redundant Controller is installed in the right-hand slot. See "Rear Views" on page 21.

f. Slide the replacement Controller into its slot until it will go no further.

g. Close the lever until it clicks in place.

   The Controller engages with the connector on the midplane.

5. Check the Power/OK LED on the Controller to make sure it is lit; see "Avid NEXIS F-Series Controller Features and Identification" on page 13 or "Avid NEXIS E-Series Controllers and Identification" on page 16 for more information.
6. Connect the two Controllers with a standard Ethernet cable between the ports indicated in the figures in "Dual Controller Connection Diagrams" on the next page. The cable provides ongoing communication between the Controllers and must remain in place.

   As soon as the Controllers are connected, the original Controller sends the necessary firmware and configuration data to the redundant Controller, bringing them into sync. This process can take up to 20 minutes. The system is fully usable during this time.
7. Log in to the management Console and verify that both Controllers are displayed and running the same version. For more information see the Avid NEXIS Administration Guide.

Version Incompatibility with Replacement Controllers and Avid NEXIS version 2024.5.0

Avid NEXIS | VFS 2024.5 includes an updated version of Debian Linux to improve supportability. This version includes a sub-component used for inter-controller synchronization that is not compatible with earlier versions of Avid NEXIS. Therefore adding redundant controllers or replacing a failed redundant controller will now require a maintenance window to allow the controller to read the engine configuration.

This issue affects both Avid NEXIS F-Series (including SDA+ and PRO+) and Avid NEXIS E-Series (including SDA, PRO 20TB, and PRO 40TB), and applies only to systems running version 2024.5.0 or higher.

As always, make sure to update all the Engines and the System Director Appliance, if applicable, in a shared-storage system to the same Avid NEXIS version.

For F-series Engines with a single (failed) Controller do the following:

1. Remove the failed Controller.
2. Insert the replacement Controller.

   The system automatically updates the new Controller to the required version from the system drives and reboots. The system is ready to use.

For F-series Engines with redundant Controllers do the following:

1. Remove both Controllers.
2. Insert the replacement Controller.

   The system automatically updates the new Controller to the required version from the system drives and reboots. The system is ready to use.
3. Reinsert the other (previously running) Controller.

For E-series Engines with a single (failed) Controller do the following:

1. Remove the failed Controller.
2. Insert the replacement Controller.
3. Connect a laptop to the 1Gbps Ethernet Management Port on the rear of the Engine.
4. Install Avid NEXIS version 2024.5.0 or higher.

   The system reboots and then is ready to use.

For E-series Engines with redundant Controllers do the following:

1. Remove both Controllers.
2. Insert the replacement Controller.
3. Connect a laptop to the 1Gbps Ethernet Management Port on the rear of the Engine.
4. Install Avid NEXIS version 2024.5.0 or higher.

   The system reboots and then is ready to use.
5. Reinsert the other (previously running) Controller.

Controllers cannot be swapped between F-Series and E-Series, or between PRO 20TB/40TB and PRO+ or SDA and SDA+.

Avid strongly recommends performing the above procedure on all "shelf spare" Controllers after upgrading to 2024.5.0 or higher to allow future Controller replacements to be performed while the system remains running.

Dual Controller Connection Diagrams

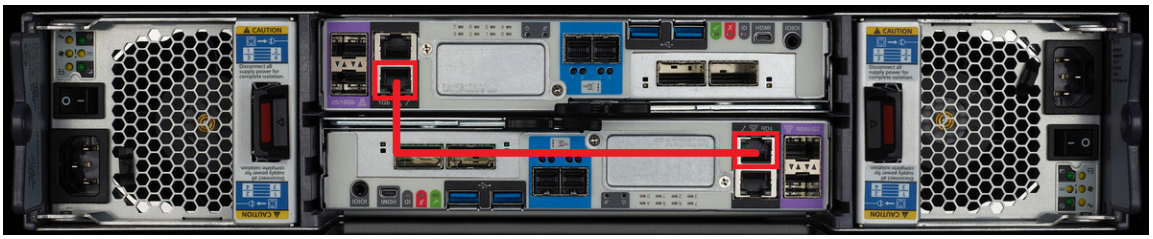
Refer to the following figures when connecting two Controllers in an Engine or the System Director Appliance.

Not all models support redundant Controllers; see "Controllers and I/O Modules" on page 12 for more information.

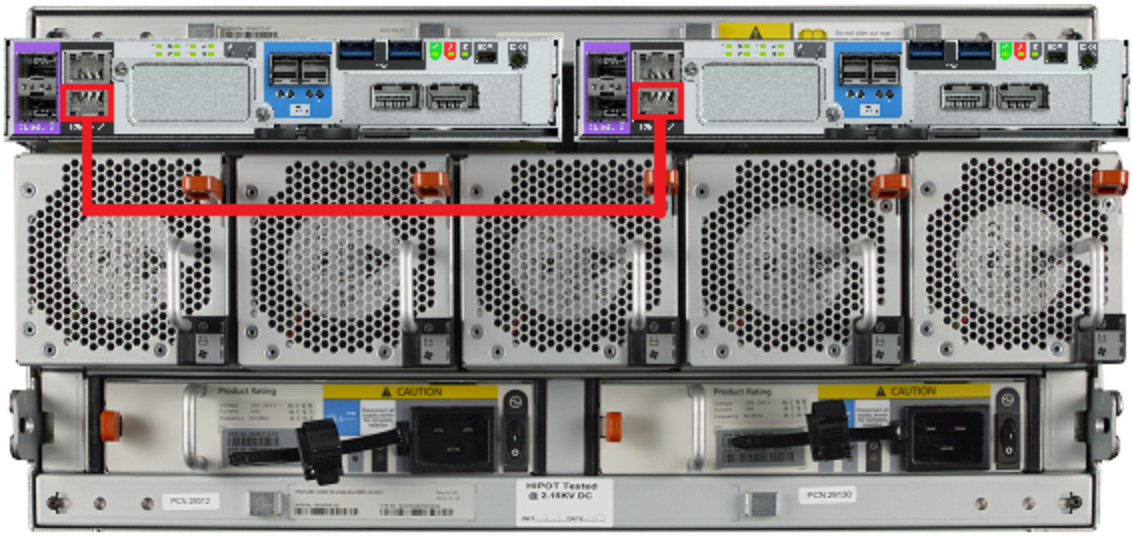
Dual Controller Connection in Avid NEXIS | F2, Avid NEXIS | SDA+



Dual Controller Connection in Avid NEXIS | F2 SSD



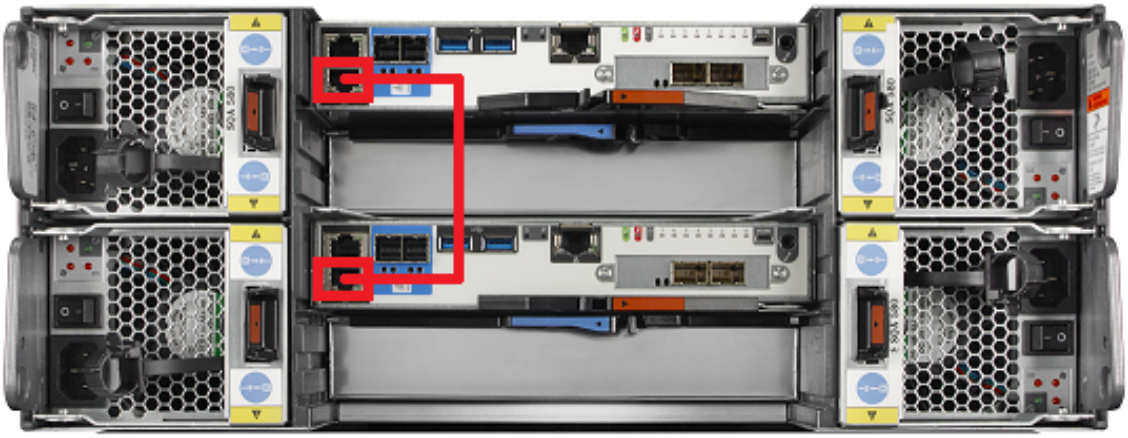
Dual Controller Connection in Avid NEXIS | F5, Avid NEXIS | F5 NL



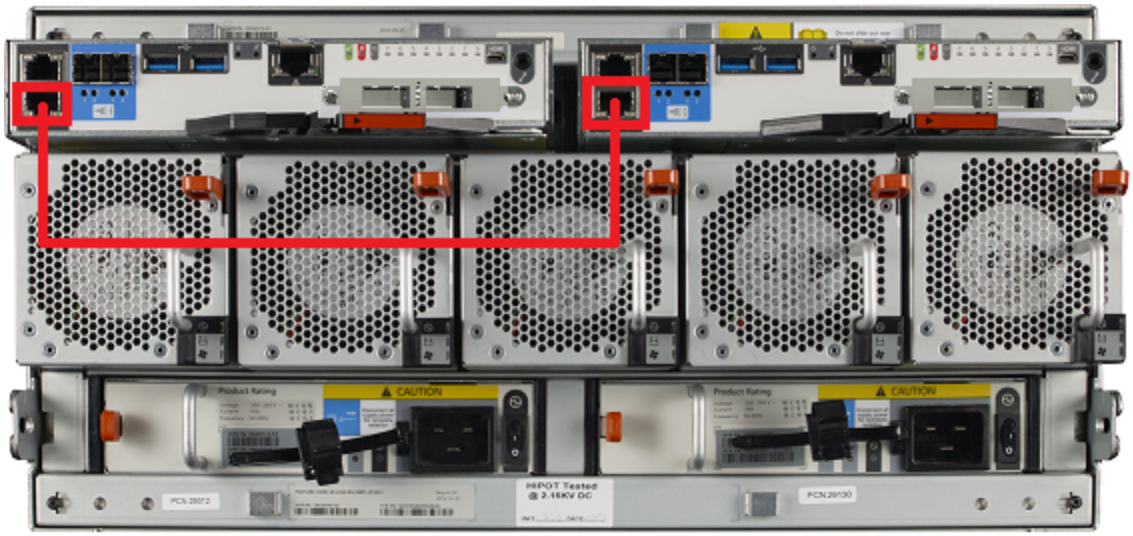
Dual Controller Connection in Avid NEXIS | E2, Avid NEXIS | E2 All-Mirror, Avid NEXIS | SDA



Dual Controller Connection in Avid NEXIS | E4, Avid NEXIS | E4 All-Mirror



Dual Controller Connection in Avid NEXIS | E5, Avid NEXIS | E5 All-Mirror, Avid NEXIS | E5 NL



About Controller Failures

When a Controller fails, the fault LED will be lit red. If the Engine has two Controllers, services that were running on the failed Controller will move to the operational Controller. This process can take three to five (3-5) minutes on 2U and 4U Engines and the SDA, and 10 or more minutes on 5U Engines.

In an Engine with a single Controller, clients cannot access Workspaces until the Controller is replaced.

In any Engine or System Director Appliance with a single Controller, insert the replacement Controller in the same slot as the original factory-installed Controller. See "Controllers and I/O Modules" on page 12 for the required location and orientation for a single-Controller system.

Both Controllers in an Engine must be the same type, with the same label. See "Controllers and I/O Modules" on page 12 for more information. In particular, make sure that both Controllers in an Engine have the same amount of memory. Installing Controllers with different memory capacities in the same Engine is not supported.

Make sure you have a replacement before removing a failed component. When replacing a Controller while the system is running, insert the new Controller within two minutes of removing the defective Controller.

The new Controller can be a spare you already have on hand or a Controller purchased specifically because of a failure. No matter which replacement Controller you use, as soon as it is installed in the Engine the system automatically configures it with the current default Agent and Management Console passwords (*see note below*). Therefore, the manufacture date of the Controller (and its default password) does not affect the replacement process. For more information see "Controller (Agent) Password " on page 19.

For systems running (or upgraded to) Avid NEXIS version 2024.5.x, see "Version Incompatibility with Replacement Controllers and Avid NEXIS version 2024.5.0" on page 67.

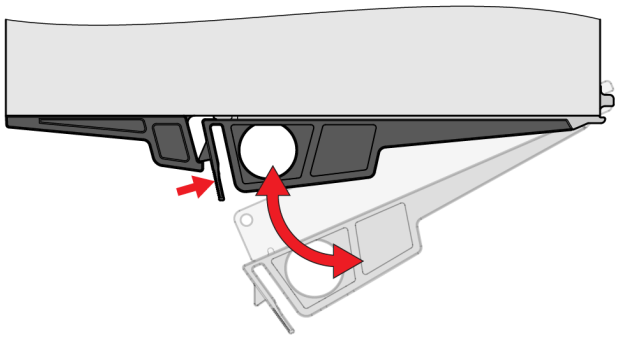
Replacing a Controller

To replace a Controller:

1. Make note of the locations of all cables (between the Controllers, between the Controller and an I/O module in an expansion chassis, if applicable, and to the switch) and disconnect them from the failed Controller.

2. Pinch the latch on the Controller and pull the handle toward you.

   The Controller disengages from the connector on the midplane.



3. Pull the Controller out of the Engine.
4. Hold the replacement Controller in the same orientation as the one you removed.
5. Open the release latch lever all the way.
6. Slide the replacement Controller into its slot until it will go no further.
7. Close the lever until it clicks in place.

   The Controller engages with the connector on the midplane, and syncs with the other Controller (if present) and automatically receives the software and all the other system information from the system drives. This process can take up to 20 minutes. The system is fully usable during this time.

   In a single-Controller configuration, if the failed Controller was functioning as the System Director, the new Controller becomes the System Director.
8. Connect the cables to the replacement Controller (if necessary, refer to the notes you made before removing the cables).

Replacing an I/O Module

The Avid NEXIS | F2X expansion chassis contains I/O modules (instead of Controllers), which are replaceable if one fails.

- If the failed I/O module is connected to an Avid NEXIS | F2 with a single Controller, you can disconnect the cables from the failed I/O module and connect them to the other I/O module to maintain access to the Media Pack.
- If the Avid NEXIS | F2 has redundant Controllers, both of which are connected to an I/O module, the Media Pack remains accessible with no further action.

To replace an I/O module:

1. Disconnect the SAS cables from the failed I/O module.
2. Pinch the latch on the I/O module and pull the handle toward you.

   The I/O module disengages from the connector on the midplane.
3. Pull the I/O module out of the chassis.
4. Hold the replacement I/O module in the same orientation as the one you removed.
5. Open the release latch lever all the way.
6. Slide the replacement I/O module into its slot until it will go no further.
7. Close the lever until it clicks in place.

The I/O module engages with the connector on the midplane.

8. Connect the cables to the replacement I/O module (see "Rack-Mounting the Equipment" on page 34 for a figure of the SAS cable connections between the Avid NEXIS | F2 and the Avid NEXIS | F2X).

Power Supply Failures

When you encounter a problem with the power supply, check for:

- Missing or damaged power cords
- Incorrect or ungrounded circuits
- Proper power is supplied to the Engine

When the Engine is turned on, all LEDs are lit for a short period to ensure that they are working. This does not indicate a fault unless the LEDs remain lit after a few seconds.

If a power supply's firmware is being programmed and the download fails, the power supply LEDs will flash.

See "Power Supplies and Fans" on page 28 for more information.

Replacing a Power Supply (2U and 4U)

The power supplies in the 2U and 4U chassis include cooling fans as well as supplying power to the system. The power supplies are bi-directional; you can insert a power supply into either the left or right slot. When installed on the left side of the Engine, the plug is below the ON/OFF switch. When installed on the right side, the plug is above the ON/OFF switch.

All the PSUs or PCMs in a given Engine must be the same power rating. For example, in a 2U Engine or SDA+, both PSUs must be 764W.

To remove a power supply:

1. Open the strain relief and unplug the power cord.
2. Press the black release latch (see "Power Supplies and Fans" on page 28) towards the center of the module.
3. Open the silver latch, which disengages the power supply module from the Engine.

To insert a power supply:

1. Position the power supply so that the release latch and handle are closest to the Controller.
2. Slide the power supply into its slot and close the handle until the latch clicks in place.
3. Reconnect the power cord and secure the strain relief.

Replacing a Power Supply (5U)

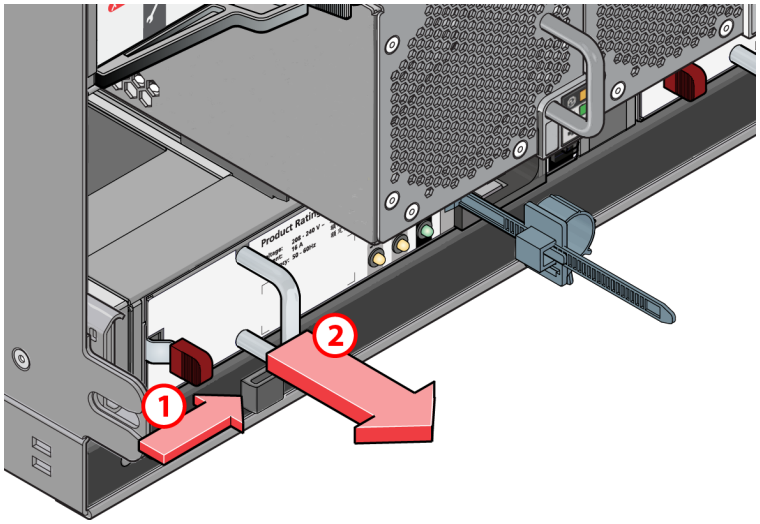
In a 5U Engine the power supplies are separate from the fan modules. These systems are designed to continue working with only one of the two power supplies.

All the PSUs or PCMs in a given Engine must be the same power rating. For example, in a 2U Engine or SDA+, both PSUs must be 764W.

Make sure you have a replacement before removing a failed component to maintain proper airflow. When the Engine power is left on, insert the new power supply within two minutes after removing the defective power supply.

To remove a power supply:

1. Identify the power supply to be removed. If the module has failed, the fan fault LED will be lit amber.
2. Push the red release latch to the right and hold it (callout 1 in the following figure), then pull the module out by its handle (callout 2).



To insert a power supply:

1. Position the power supply so that the red release latch and handle are on the left-hand side.
2. Slide the power supply into its slot until the latch clicks in place. The Engine will automatically detect the new unit.

Replacing a Fan Module (5U only)

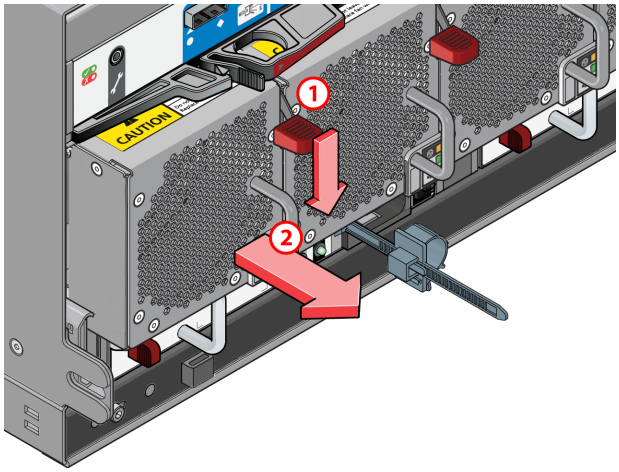
In a 5U Engine the fan modules are separate from the power supplies. These Engines are designed to continue working with at least two of the five fan modules.

Make sure you have a replacement before removing a failed component to maintain proper airflow. When the Engine power is left on, insert the new fan module within two minutes after removing the defective one.

To remove a fan module:

1. Identify the fan module to be removed. If the module has failed, the fan fault LED will be lit amber (see "Rear Views" on page 21).
2. Push down and hold the red release latch (callout 1 in the following figure) and pull the module out by

its handle (callout 2).



To insert a fan module:

1. Position the fan module so that the red release latch and handle are on the right-hand side.
2. Slide the fan module into its slot until the latch clicks in place. The Engine will automatically detect and use the new module.

Shutting Down the System

Under normal working conditions the system can remain running all the time. All FRU components are hot-swappable (drives, controllers, power supplies and fans) so that if a component fails you can replace it while the system remains running.

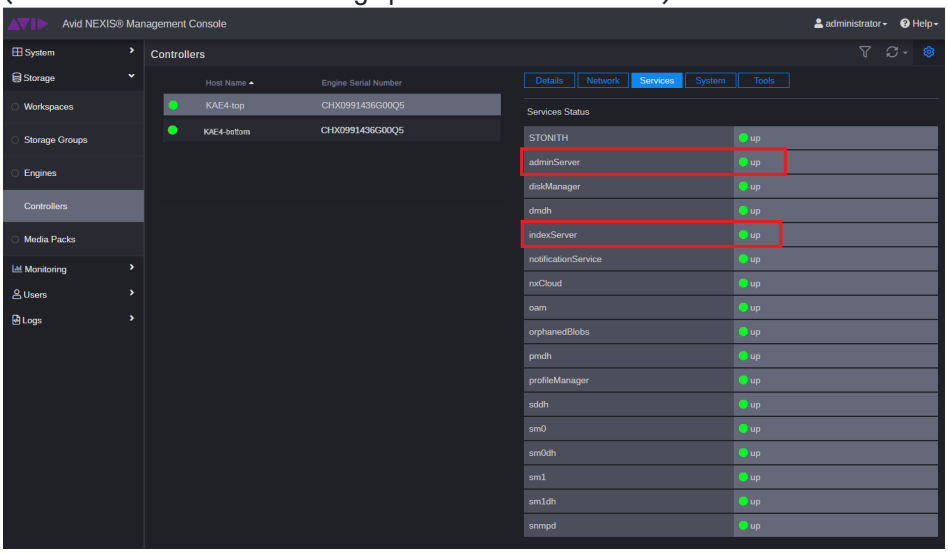
However there might be cases where you have to cleanly shut down the entire Avid NEXIS system; for example, a site-wide power shutdown, equipment room move, or some other disruptive procedure.

In a multi-Engine system, with or without an SDA, you shut down the storage Engines first (one Controller at a time), then shut down the SDA or Engine running the embedded System Director last (also one Controller at a time).

To shut down the entire Avid NEXIS system:

1. Notify all clients to stop using and unmount all Workspaces.
2. In the navigation sidebar, click **Storage**, then **Engines**.
3. Identify the Engines used only for storage (on the Engines page, the Type field displays Storage Engine, not SDA or Storage with SD). Shut these down first.
4. Click **Controllers**. Identify the Controller(s) in the Engine you want to shut down. (The Controller names are based on the Engine name, with a suffix of -left, -right, -top, or -bottom, designating their relative slot positions.)
5. Select a Controller and click **Tools**.
6. In the CONTROLLER SHUTDOWN field, type the Agent administrator password (see the Avid NEXIS Setup and Maintenance Guide for more information) and click **Shutdown**.
7. In the dialog box, click **OK**.
8. If the Engine has a second Controller, shut it down.
9. Shut down the other storage-only Engines, until only the SDA (if applicable) or the Engine running the System Director remains.

10. On the SDA or Engine running the System Director, if two controllers are present, identify the one running the System Director service, as follows:
    a. In the navigation sidebar, click **Storage**, then **Controllers**.
    b. Click **Advanced**.
    c. Click the **Services** tab.
    d. Look for services named `adminServer` and `indexServer`, as shown in the following figure (these two services are always paired on a Controller):



11. Select the **other** Controller (the one *not* running these services) and shut it down.
12. Select the last Controller (running the `adminServer` and `indexServer` services) and shut it down.

    The entire Avid NEXIS system is now shut down. You lose access to the Management Console for the system.
13. Turn off the switches on all the power supplies in all Engines and the SDA, and unplug the power cables from the power source.

Restarting the System

If you have completely shut down an on-premises Avid NEXIS system, follow this procedure to start it again.

To restart an Avid NEXIS system:

- If the power supplies are not plugged in to AC power, connect them and turn on the power supply switches.
- If the power supplies are connected to AC power, turn off the power supply switches for a few seconds, then turn them on again.

The system begins its power-on self test (POST) process. After several minutes the fans start running at full speed. No matter which Engine starts first, eventually all the Engines and the SDA (if applicable) or Engine running the System Director communicate with each other and reestablish the shared-storage system. In a few more minutes the system becomes available on the network, and you can open a browser (or a new tab) and log into the Management Console.

Removing or Replacing a Chassis

In rare cases, the chassis itself might have an internal fault that cannot be fixed by replacing other components.

You can replace the entire chassis by removing all the replaceable components — Media Packs, system drives, Controllers or I/O modules, and power supplies and fans (if applicable) — and installing them in a new chassis.

Make sure to move the two system drives (SSDs) along with the Media Packs to the new chassis. (The Avid NEXIS | F2X expansion chassis does not have system drives.)

The Avid license (modular or capacity) is associated with the chassis ID. If you replace an Avid NEXIS | PRO+ or F-Series chassis that has a modular license, or the Engine running the System Director service for the shared-storage system, contact Avid for an updated license. (The Avid NEXIS | F2X expansion chassis does not have its own modular license and does not need a new one.)

To remove a chassis:

1. Open the Management Console and click System, then System Setup.
2. Write down the host name, IP address, and other important network details to reuse with the new chassis.
3. Shut down the Controllers in the failed Engine as follows:
    a. In the navigation sidebar, click Storage, then Controllers.
    b. Double-click a Controller name to open the Advanced panel, then click the blue Tools tab.
    c. In the Controller Shutdown field, enter the administrator password, then click Shutdown.
    d. In the confirmation message, click Continue.

    In a single-Engine configuration, shutting down the Controllers also shuts down the entire system and your login session will end until the system reboots.
4. Make note of the locations of all connected cables and disconnect them from the failed chassis.
5. Turn off the switches on all the power supply modules.
6. Disconnect all network and power cables from the failed chassis.
7. Carefully remove all the media drives, system drives, Controllers, and the power supplies and fans, as applicable, and put them in a safe place.
8. Remove the failed chassis from the rack.

To set up a new chassis:

1. Install the new empty chassis into the rack.
2. Insert all the media drives and system drives from the old chassis into the new one.
3. Insert the Controllers and power supplies from the old chassis into the new one (see "Avid NEXIS System Overview" on page 10 for the proper orientation of Controllers in the chassis).

    You do not need to change the Controller IP address if using it in the same shared-storage system.
4. Connect all Ethernet, SAS, and power cables as applicable to the new chassis.
5. Turn on the new chassis.
6. Allow two minutes for the new chassis to initialize.

    If any of the LEDs indicate an error, call Avid Customer Care.

7. Open the Management Console and apply the new license, if applicable. See "Activating a Modular License " on page 52 for more information. (To update a capacity license, see the Avid NEXIS Administration Guide.)
8. Verify that the Media Packs are online with a green icon and no status messages on the Media Packs page.

   If any Status errors are listed, call Avid Customer Care.

9. Verify that media is available to the clients.

5 Specifications and Notices

This chapter provides information on the physical and electrical specifications for the Avid NEXIS Engines and the optional external System Director Appliance. Avid recommends the use of an Uninterruptible Power Supply (UPS) and supported network cabling. See "Uninterruptible Power Supply (UPS)" below.

Electrical Requirements

Consider installing a separately derived power system for your Avid shared storage hardware. This ensures that you can control the hardware grounding, with all grounds brought to a single point, and that uncontrolled equipment, such as coffee makers or floor polishers, cannot be plugged into the same power source as the Avid shared storage hardware.

If you run more than one power line because you have more than one UPS, make sure the power lines come from the same distribution panel.

As you choose the location for your Avid shared storage hardware, keep these electrical requirements in mind:

- Make sure there is adequate, dedicated power for the UPSes that are part of your Avid shared storage workgroup.
- Make sure your location is away from major electrical equipment such as motors, air conditioners, or elevators.
- Make sure the location is not subject to electrostatic buildup.
- Plug only your Avid hardware into the power strips. Do not plug in coffee makers, radios, lights, or other non-Avid devices.

Uninterruptible Power Supply (UPS)

UPS systems must specify a transfer time of <10ms in order to prevent power loss to the power supply modules. The power supply modules for an Engine should not be connected to the same UPS.

See "Power Supplies and Fans" on page 28 for more information, and provide a UPS that meets the power requirements of each individual power supply module in the Engines in your environment. Make sure there is adequate, dedicated power for each UPS.

Avid recommends the use of UPSs, appropriately sized for your Avid shared storage workgroup, or conditioned power in your computer room environment. This provides protection against sudden power surges or losses that could cause you to lose files or experience data corruption.

Physical Specifications

Model	Width (with ear mounts)	Depth	Height	Weight
Avid NEXIS | E2 Avid NEXIS | E2 All-Mirror Avid NEXIS | E2 SSD Avid NEXIS | F2	483 mm (19 in)	630 mm (24.8 in)	89 mm (3.5 in)	Without drives: 16.2 kg (36 lb) With drives: 26 kg (57.2 lb)
Avid NEXIS | F2 SSD				Without drives: 17 kg (38 lb)

Model	Width (with ear mounts)	Depth	Height	Weight
				With drives: 30 kg (66 lb)
Avid NEXIS | PRO 40TB Avid NEXIS | PRO+				(Shipped with drives installed): 26 kg (57.2 lb)
Avid NEXIS | F2X				Without drives: 12.6 kg (28 lb) With drives: 26 kg (57.2 lb)
Avid NEXIS | SDA Avid NEXIS | SDA+				(Shipped with two system drives installed): 16.2 kg (36 lb)
Avid NEXIS | E4 Avid NEXIS | E4 All-Mirror			178 mm (7 in)	Without drives: 32 kg (70 lb) With drives: 46 kg (101.4 lb)
Avid NEXIS | E5 Avid NEXIS | E5 All-Mirror Avid NEXIS | E5 NL Avid NEXIS | F5 Avid NEXIS | F5 NL		930 mm (36.8 in)	22 2mm (8.7 in)	Without drives: 75.5 kg (166 lb) With drives: 128 kg (282 lb)

One Media Pack (10 drives) weighs a maximum of 7.4kg (16.3 lb) regardless of the drive carrier or type (HDD or SSD).

Electrical and Power

All the PSUs or PCMs in a given Engine must be the same power rating. For example, in a 2U Engine or SDA+, both PSUs must be 764W.

Model	Power Supplies	Voltage	Frequency	Power Conversion Efficiency (Consumption)
Avid NEXIS | F2 Avid NEXIS | PRO+ Avid NEXIS | F2 SSD Avid NEXIS | E2 Avid NEXIS | E2 All-Mirror Avid NEXIS | E2 SSD Avid NEXIS | PRO 40TB Avid NEXIS | SDA	Dual 764 W	100V-240V AC	60/50 Hz	›80% @ 100 V, ›80% @ 240 V (›30% load) Max startup power: 764 W BTU/Hr at startup: 2607 Avg. Load power: 200 W (estimated) BTU/Hr at avg. load: 683 (estimated)
Avid NEXIS | F2X	Dual 580 W	100V-240V AC	60/50 Hz	›83% @ 100 V, ›85% @ 240 V (›30% load)

Model	Power Supplies	Voltage	Frequency	Power Conversion Efficiency (Consumption)
Avid NEXIS | F5 Avid NEXIS | F5 NL Avid NEXIS | E5 Avid NEXIS | E5 All-Mirror Avid NEXIS | E5 NL	Dual 2200 W	180V-264V AC	60/50 Hz	94% @ 240 V (50% load) Max startup power: 2200 W BTU/Hr at startup: 7507
Avid NEXIS | E4 Avid NEXIS | E4 All-Mirror	Quad 580 W	100V-240V AC	60/50 Hz	>83% @ 100 V, >85% @ 240 V (>30% load) Max startup power: 1160 W BTU/Hr at startup: 3958 Avg. Load power: 512 W BTU/Hr at avg. load: 1747

Altitude and Temperature

Model	Operating/Non-operating Temperature	Operating/Non-operating Humidity	Operating/Non-operating Altitude
Avid NEXIS | F2 Avid NEXIS | PRO+ Avid NEXIS | SDA+ Avid NEXIS | F2X	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / –40°C to 70°C (–40°F to 158°F)	–12°C DP minimum, 8% RH to 85% RH, max DP 21°C / 5% to 100% noncondensing	
Avid NEXIS | F2 SSD	RBOD: 5°C to 35°C (41°F to 95°F), EBOD: 5°C to 40°C (41°F to 104°F) / –40°C to +70°C (–40°F to +158°F)	20% to 80% noncondensing / 5% to 100% noncondensing	
Avid NEXIS | F5 Avid NEXIS | F5 NL	ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / –40°C to +70°C (–40°F to +158°F)	–12°C DP and 10% RH to 21°C DP and 80% RH, Max DP 21°C / 5% to 100% noncondensing	–100m to 3000m (–330 ft to 10,000 ft) / –100m to 12,192m (–330 ft to 40,000 ft)
Avid NEXIS | E2 Avid NEXIS | E2 All-Mirror Avid NEXIS | E2 SSD Avid NEXIS | PRO 40TB Avid NEXIS | SDA	5° to 40° C (41° to 104° F)	8% to 80% noncondensing	0 to 3000 m (0 to 10,000 ft) / -300 to 12,192 m (-1000 to 40,000 ft)
Avid NEXIS | E4 Avid NEXIS | E4 All-Mirror	5° to 40° C (41° to 104° F)	20% to 80% noncondensing	0 to 3000 m (0 to 10,000 ft) / -300 to 12,192 m (-1000 to 40,000 ft)
Avid NEXIS | E5 Avid NEXIS | E5 All-Mirror	5° to 35°C	10% to 80% noncondensing	-100 to 3000m (-330 to 10,000 ft) / -100 to

Model	Operating/Non-operating Temperature	Operating/Non-operating Humidity	Operating/Non-operating Altitude
Avid NEXIS | E5 NL	(41° to 95° F)		12,192m (-330 to 40,000 ft)

Shock and Vibration

Model	Operating/Non-operating Shock	Operating/Non-operating Vibration
Avid NEXIS | F2 Avid NEXIS | F2X Avid NEXIS | PRO+ Avid NEXIS | SDA+	5 Gs, 10ms, half sine pulses / 15 Gs, 10ms, half sine pulses	0.21 Gs rms, 5Hz to 500Hz random / 1.04 Gs rms, 2Hz to 200Hz random
Avid NEXIS | F2 SSD	5.0 Gs, 10ms, half sine pulses (Y-axis) / 30.0 Gs, 10ms, half sine pulses	0.21 Gs rms 5Hz to 500Hz random / 1.04 Gs rms 2Hz to 200Hz random
Avid NEXIS | F5 Avid NEXIS | F5 NL	5 Gs 10ms half sine (X, Y, and Z axes), 20 Gs 10ms half sine (X and Y axes)	0.21 Gs rms (5Hz to 500Hz) / 1.04 Gs rms (2Hz to 200Hz)
Avid NEXIS | E2 Avid NEXIS | E2 All-Mirror Avid NEXIS | E2 SSD Avid NEXIS | PRO 40TB Avid NEXIS | SDA	5g 10ms ½ Sine/20g 10ms ½ Sine	Random 0.21g RMS 5-500Hz/Random 1.04g RMS 2-200Hz Relocation Vibration: Swept Sine 0.3g 2-200Hz
Avid NEXIS | E4 Avid NEXIS | E4 All-Mirror	5g 10ms ½ Sine/30g 10ms ½ Sine	Random 0.21g RMS 5-500Hz/Random 1.04g RMS 2-200Hz Relocation Vibration: Swept Sine 0.3g 2-200Hz
Avid NEXIS | E5 Avid NEXIS | E5 All-Mirror Avid NEXIS | E5 NL	5g 10ms ½ Sine/30g 10ms ½ Sine	Random 0.21g RMS 5-500Hz/Random 1.04g RMS 2-200Hz Relocation Vibration: Swept Sine 0.3g 2-200Hz

Acoustics

Model	Acoustics
Avid NEXIS | E2, Avid NEXIS | E2 All-Mirror Avid NEXIS | E2 SSD Avid NEXIS | PRO 40TB Avid NEXIS | SDA	Sound power operating < 6.5 Bels LWAd @ 23°C
Avid NEXIS | E4, Avid NEXIS | E4 All-Mirror	Sound power operating < 7.2Bels LWAd @ 23°C
Avid NEXIS | E5, Avid NEXIS | E5 All-Mirror Avid NEXIS | E5 NL	Sound power operating < 8.0Bels LWAd @ 23°C

Approvals

Avid NEXIS | F2, Avid NEXIS | F2X, Avid NEXIS | F5, Avid NEXIS | F5 NL

Category	Standards/Approvals
EMC (Emissions)	FCC CFR 47 Part 15 Subpart B Class A (United States); ICES/NMB-003 Class A (Canada); EN 55032 Class A, EN 55024; EN 61000-3-2, EN 61000-3-3 (Europe); AS/NZS CISPR 3 Class A (Australia/New Zealand); CI Class A (Japan); KS 32; Class A/KS 35 (S. Korea); CNS 13438 Class A (Taiwan)
Safety	Australia/New Zealand (RCM), Canada (cUL/ICES/NMB-003 Class A), China (CCC – PSU only), European Union (CE) Japan (VCCI), South Korea (KC), Taiwan (BSMI), United States (FCC/UL), The Eurasian Economic Union (EAC), India (BIS), UL62368-1 ED3 (United States); CAN/CSAC22.2 No.60950-1-07/No.62368-1-14, 2nd Ed (Canada); EN62368-1 (European Union); IEC 62368-1 Ed3 (International); CQC (China PRC – CQC Power Supplies); BIS (India – BIS Power Supplies)
Ecodesign	Commission Regulation (EU) 2019/424 (Directive 2009/125/EC)
Harmonics	EN 61000-3-2 (EU)
Flicker and Immunity	EN 55024 (EU); KS 24/KS 35 (S. Korea); CISPR 24/CISPR35
Environmental	The RoHS Directive (2015/65/EU), The WEEE Directive (2012/19/EU), The REACH Directive (EC/1907/2006), The Batteries Directive (2006/66/EC)

Avid NEXIS | F2 SSD

Standards/Approvals	
EMC (Emissions)	FCC CFR 47 Part 15 Subpart B Class A (United States); ICES/NMB-003 Class A (Canada); EN 55032 Class A, EN 55024, EN 61000-3-2, EN 61000-3-3 (Europe); AS/NZS CISPR 32 Class A (Australia/New Zealand); VCCI Class A (Japan); KN 32 Class A/KN 35 (S. Korea); CNS 13438 Class A (Taiwan)
Safety	UL 60950-1 (United States); CAN/CSA-C22.2 No.60950-1-07 (Canada); EN 60950-1 (European Union); IEC 60950-1 (International); CCC (China PRC – CCC Power Supplies); BIS (India – BIS Power Supplies)
Harmonics	EN 61000-3-2 (EU)
Flicker	EN 61000-3-3 (EU)
Immunity	EN 55024 (EU); KN 24/KN 35 (S. Korea)
Environmental Standards	The RoHS Directive (2011/65/EU); The WEEE Directive (2012/19/EU); The REACH Directive (EC/1907/2006); The Batteries Directive (2006/66/EC)
Standard Marks/Approvals	Australia/New Zealand (RCM); Canada (cUL/ICES/NMB-003 Class A); China (CCC – PSU only); European Union (CE); Japan (VCCI); South Korea (KC); Taiwan (BSMI); United States (FCC/UL)

Avid NEXIS E-Series and Avid NEXIS | PRO 40TB

Standards/Approvals	
EMC (Emissions)	FCC pt15B Class A; EN55022 Class A; CISPR 22 Class A; EN 55024; CISPR24; EN61000-3-2/3; CNS13438
Safety	EN/IEC/UL 60950-1; CNS14336 CB report: CE; UL; cUL; FCC; BSMI; VCCI; CCC (PSU only)

6 Safety and Regulatory Information

This section contains safety and regulatory information for Avid NEXIS hardware.

Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The garbage bin with a cross is intended to alert the user that the product may not be disposed of by regular garbage, but as electronic equipment.

Product Safety Warning



Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this equipment near water.
6. Clean only with dry cloth.
7. This equipment is intended only for installation in a RESTRICTED ACCESS LOCATION.
8. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other equipment (including amplifiers) that produce heat.
10. Protect power cords from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the equipment.
11. Only use attachments/accessories specified by the manufacturer.
12. For products that are not rack-mountable: Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the equipment. When a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.
13. Unplug this equipment during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is re- quired when the equipment has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. For products that are a Mains powered device:

    The equipment shall not be exposed to dripping or splashing and no objects filled with liquids (such as vases) shall be placed on the equipment.

    ⚠ **WARNING! To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.**

    ATTENTION! Pour réduire les risques d'incendie ou d'électrocution, n'exposez pas cet équipement à la pluie ou à l'humidité.

    Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
16. For products containing a lithium battery:

    ⚠ **WARNING! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.**

    ATTENTION! Risque d'explosion si la batterie n'est pas remplacée correctement. Remplacez uniquement par un type identique ou équivalent. Jetez les piles usagées conformément aux instructions.
17. For products with a power switch: It should remain accessible after installation.
18. The equipment shall be used at a maximum ambient temperature of 40' C.
19. This unit is provided with a power supply cord set suitable for 120V AC input only (for U.S.A. and Canada). For other than U.S.A. and Canada, a qualified person must provide for use with this unit, an appropriate, approved power supply cord set which is in compliance with the end use country requirements and has a minimum cross-sectional area of 1.0mm2.
20. For products with more than one power cord:

    ⚠ **This unit has more than one power supply cord. Disconnect two power supply cords before servicing to avoid electrical shock.**

    ATTENTION: Cet appareil comporte plus d'un cordon d'alimentation. Afin de prévenir les chocs électriques, débrancher les deux cordons d'alimentation avant de faire le dépannage.
21. For products with an operator-accessible fuse:

⚠ **For continued protection against risk of fire, replace only with same type and rating of fuse.**

ATTENTION: Pour ne pas compromettre la protection contre les risques d'incendie, remplacer par un fusible de même type et de même caractéristiques nominales.

Rack-Mount Safety Instructions

1. Elevated Operating Ambient- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient. Therefore, consider installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

2. Reduced Air Flow- Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. Make allowances for cooling air to be available to the front panel surface and no re- strictions at the rear.
3. Mechanical Loading- Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
4. Circuit Overloading- Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
5. Reliable Earthing- Reliable Earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, use of power strips).

LED Safety Notices

Avid hardware might contain LED or Laser devices for communication use. These devices are compliant with the requirements for Class 1 LED and Laser Products and are safe in the intended use. In normal operation the output of these laser devices does not exceed the exposure limit of the eye and cannot cause harm.

Environmental Compliance

Proposition 65 Warning

⚠ **This product can expose you to chemicals including Pb and Pb compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.**

Perchlorate Notice

This product may contain a lithium coin battery. The State of California requires the following disclosure statement:

“Perchlorate Material- special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate.”

Recycling Notice



Disposal of Waste Equipment by Users in the European Union



This symbol on the product or its packaging indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city recycling office or the dealer from whom you purchased the product.

EMC (Electromagnetic Compliance)

Avid declares that this product complies with the following standards regulating emissions and immunity:

- FCC Part 15 Class A
- BS/EN, EN 55032 Class A
- AS/NZS CISPR 32 Class A
- CISPR32 Class A
- BS/EN, EN 61000-3-2
- BS/EN, EN 61000-3-3
- BS/EN, EN 55035

FCC Notice: Class A Equipment

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Cables

Connections to Avid hardware must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Any modifications to the unit, unless expressly approved by Avid, could void the user's authority to operate the equipment.

Australian Compliance



Safety Compliance

This equipment has been tested to comply with USA, Canadian, EU and International safety certification standards: UL/CSA 62368-1:2014, BS EN 62368-1:2014+A11:2017 and IEC/EN 62368-1:2014 (2nd Edition).

United Kingdom Compliance (EMC, Safety, and RoHS)



Avid Tech. EU LTD
20 Station Road
Gerrards Cross
England SL9 8EL

CE Compliance (EMC, Safety, and RoHS)



Avid is authorized to apply the CE (Conformite Europenne) mark on this compliant equipment thereby declaring conformity to EMC Directive 2014/30/EU, Low Voltage Directive 2014/35/EU and RoHS Recast Directive 2011/65/EU.