



Avid Configuration Guidelines
LENOVO P340 workstation Tower and SFF
6, 8 or 10 Core CPU System



1.) LENOVO P340 AVID Qualified System Specification:

P340 Hardware Configuration

Supported Intel Xeon and 10th Generation Intel Core i7/i9 CPU Choices

- Intel core i7-10700 2.9 Ghz, turbo up to 4.8 Ghz 8-core
- Intel core i7-10700K 3.8 Ghz, turbo up to 5.1 Ghz 8-core (tower only)
- Intel core i9-10900 2.8 Ghz, turbo up to 5.2 Ghz 10-core
- Intel core i9-10900K 3.7 Ghz, turbo up to 5.3 Ghz 10-core (tower only) (Best Performance tower)
- Xeon W-1250 3.3 Ghz, turbo up to 4.7 Ghz 6-core
- Xeon W-1250P 4.1 Ghz, turbo up to 4.8 Ghz 6-core (tower only)
- Xeon W-1270 3.4 Ghz, turbo up to 5.0 Ghz 8-core
- Xeon W-1270P 3.8 Ghz, turbo up to 5.1 Ghz 8-core (tower only)
- Xeon W-1290 3.2 Ghz, turbo up to 5.2 Ghz 10-core (Best Performance SFF)
- Xeon W-1290P 3.7 Ghz, turbo up to 5.3 Ghz 10-core (tower only) (Best Performance tower)

Supported Video Cards

- 1.) NVIDIA P620 2GB PCIe video board
- 2.) NVIDIA P1000 4GB PCI-e video board
- 3.) NVIDIA P2200 5GB PCI-e video board (tower only) (recommended – performance/price)
- 4.) NVIDIA RTX 4000 8GB PCI-e video board (tower only) (Best performance)

System Disk Drive – 512 GB (recommended) M.2 PCIe NVMe SSD. LENOVO also offers SATA SSD, and SATA HDD boot drive options which are acceptable. Recommend a LENOVO qualified drive be selected.

Standard AVID memory configuration:

- Systems using the Xeon CPU's will use DDR4-2933MHz ECC memory (up to 4 DIMMs per system)
- Systems using core i7/i9 will use DDR4-2933MHz **Non-ECC** memory (up to 4 DIMMs per system)
- 128 GB memory capacity for these systems
- Each CPU has 2 memory channels - optimal bandwidth when 2 or 4 memory DIMMs filled
 - 32GB (2 x 16GB) DDR4 2933MHz memory – (Requires two 16GB DIMMs)

Memory modules must be installed according to manufacturer's requirements

Optional AVID memory configuration:

- 16GB (2 x 8GB) DDR4 2933 memory – (Requires two 8GB DIMMs)
- 32GB (4 x 8GB) DDR4 2933 memory – (Requires four 8GB DIMMs)
- 64GB (4 x 16GB) DDR4 2933 memory – (Requires four 16GB DIMMs)
- 64GB (2 x 32GB) DDR4 2933 memory – (Requires two 32GB DIMMs)
- 128GB (4 x 32GB) DDR4 2933 memory – (Requires four 32GB DIMMs)

Memory configuration constraints

- No other memory configurations are formally supported in AVID environments.
- **Un-balanced memory configurations which mix and match memory module sizes and locations will result in a poor performing, non-optimal operating environment.**

2.) Qualified Operating Systems, Avid Client Editing Applications, Hardware and Shared-Storage support for the LENOVO P340:

LENOVO Supports:

- Microsoft® Windows 10 Pro for workstations 64-bit Version 2004

Not Supported –

- Microsoft® Windows 7 – any version
- Microsoft Windows 8 or 8.1 – any version

Media Composer Application	Minimum Rev
Media Composer	2019.12
Media Composer 7.x, 8.x, 2018.x	Not supported
NewsCutter 11.x	Not Supported

* See Avid Media Composer version matrix for Nvidia driver version
https://avid.secure.force.com/pkb/articles/en_US/Compatibility/en267087

3.) Qualified O.S., Hardware and shared storage supported:

	Qualified / Supported
Nitris DX Mojo DX	NOT SUPPORTED End of support 3/31/2020
Artist DNxIO/ DNxIQ (PCIe or thunderbolt connection). SFF requires TB connection as the BMD HIB is full size PCIe only Artist DNxIV/DNxIP/DNxID (thunderbolt only connection) – NOT QUALIFIED at this time as Lenovo TB3 adapter not shipping yet.	Yes – Supported <u>PCIe Guidance</u> PCIe preferred as it requires less system over-head due to direct PCIe to PCIe connection between the host CPU and Artist DNxIQ <u>Thunderbolt Guidance</u> Thunderbolt 2 & 3 - higher system over-head, not recommended to share Thunderbolt devices on the same Thunderbolt bus with DNxID, DNxIV DNxIO would require TB3 to TB2 converter
3 rd Party Qualified Hardware	See release notes and Avid website for information regarding supported 3 rd party hardware (vendor qualified)
NEXIS / ISIS Single 1Gb Ethernet Client NEXIS Dual 1Gb Ethernet Client Intel i350 T2V2, i219, X722	ISIS 5500 / 5000 , 7500 / 7000 Avid NEXIS Pro, E2, E2 SSD, E4, E5, E5 NL V20.5
NEXIS / ISIS Ultra Hi-res (10Gbit) client Myricom Single or dual Port 10Gbit Atto FFRM-NS11,NS12 NT11, NT12 Intel X520-T2, X540-T2, X710-DA2, X722	ISIS 5500 / 5000 , 7500 / 7000 Avid NEXIS Pro, E2, E2 SSD, E4, E5, E5 NL V20.5
NEXIS 40Gigabit Atto FFRM-NQ 41/42	Avid NEXIS Pro, E2, E2 SSD, E4, E5, E5 NL V20.5

4.) AVID qualified HBA info

AVID qualified HBA	AVID Part Number	Slot Location	Function
Avid Artist DNxIO HBA Avid Artist DNxIQ HBA	Avid part # 7030-30048-02 BMD PCIe cable kit	#3	Avid Artist DnxIO interface HBA Avid Artist DNxIQ interface HBA
LENOVO Thunderbolt 3 adapter card (Titan Ridge)	Not stocked by AVID	#3	Not shipping yet – HAS NOT BEEN QUALIFIED
Atto R680, H680	Not stocked by AVID	#3	Local SAS Storage
LSI 9200-8e SAS controller	7030-30036-01	#3	Local SAS Storage:
Vendor qualified 3 rd party hardware X4 PCI-e	Not stocked by AVID	#3	Vendor qualified 3 rd party hardware interface. See release notes and Avid website for information regarding supported 3 rd party hardware
Atto FFRM-NS11, NS12, NT11, NT12 10 Gb single or dual port	Not stocked by AVID	#3	Shared Storage: NEXIS Optical 10 Gb-Ethernet
Intel i350-T2 – Dual Gb NIC	Not stocked by AVID	#3	Shared Storage: NEXIS Copper Gb-Ethernet Dual Gb NEXIS Connectivity
Intel X520, X540, X710 single or dual port 10Gb	Not stocked by AVID	#3	Shared Storage: NEXIS Optical 10 Gb-Ethernet
Myricom 10G-PCIE-8B-S 10G-PCIE-8B2-2S, 10G-PCIE-8C2-2T	7030-30041-01	#3	Shared Storage: NEXIS 10Gb-Ethernet

Notes:

- Avid HIB part # 7030-30048-01 is no longer supported with DNxIO (use # 7030-30048-02 only)
- Avid artist DnxIQ requires BMD cable kit and PCIe card – Avid HIB card is NOT supported with DNxIQ
- SFF requires half height PCIe cards

5.) Slot Configuration:

Slot Configuration Information (Tower and SFF) Low profile PCIe slots in SFF			
Slot	Electrical	Mechanical	
1	x16 PCI-e Gen 3	X16	Graphics Card: Nvidia P620, P1000 (Tower & SFF) – half height cards available P2200, RTX 4000 (Tower only)
2	X1 PCI-e Gen 3	X1	Not Used (PCIe x1)
3	X4 PCI-e Gen 3	X16	Avid/BMD HIB card for DNxIO, DNxIQ LENOVO Thunderbolt 3 adapter card for DNxIV/DNxIP/DNxID (when available) 3 rd party PCIe Open IO card Shared or local storage controller
M 1	M.2 slot 1 PCI-e Gen 3	M.2 x4	LENOVO NVMe M.2 SSD storage cards
M 2	M.2 slot 2 PCI-e Gen 3	M.2 x4	LENOVO NVMe M.2 SSD storage cards
	Embedded Intel I219-LM Gb NIC	PCI-e x1 Gen 3	Qualified for Avid Nexis

6.) Use of embedded NIC ports for Nexis/ISIS connectivity **Important Information**

The P340 has one embedded NIC ports. This port is qualified for Nexis

For proper operation and connectivity of the Intel network interface with NEXIS the following settings are required:

1. For the Intel NIC driver, under the performance settings, change the following parameters:
 - Receive Buffers to 1024
 - Transmit Buffers to 1024
2. Disable the windows firewall.

7.) **Required system BIOS settings for AVID environments:**

Use latest version from Vendor website

Please Note: CPU Hyper-threading should be enabled in all configurations. It is currently enabled by default by LENOVO for shipping P340 systems

P340 Required system BIOS changes:

1. Verify CPU Processors are set to Hyper-Threading

Set P340 Required system BIOS changes:

- During boot up press F1 or F2 at the Lenovo splash screen to invoke Set Up.
- Select the Setup tab, then select Advanced tab
- Select CPU Configuration
- Verify Hyper Threading is Enabled (or enable if currently set to disable)
- Save Changes and Exit

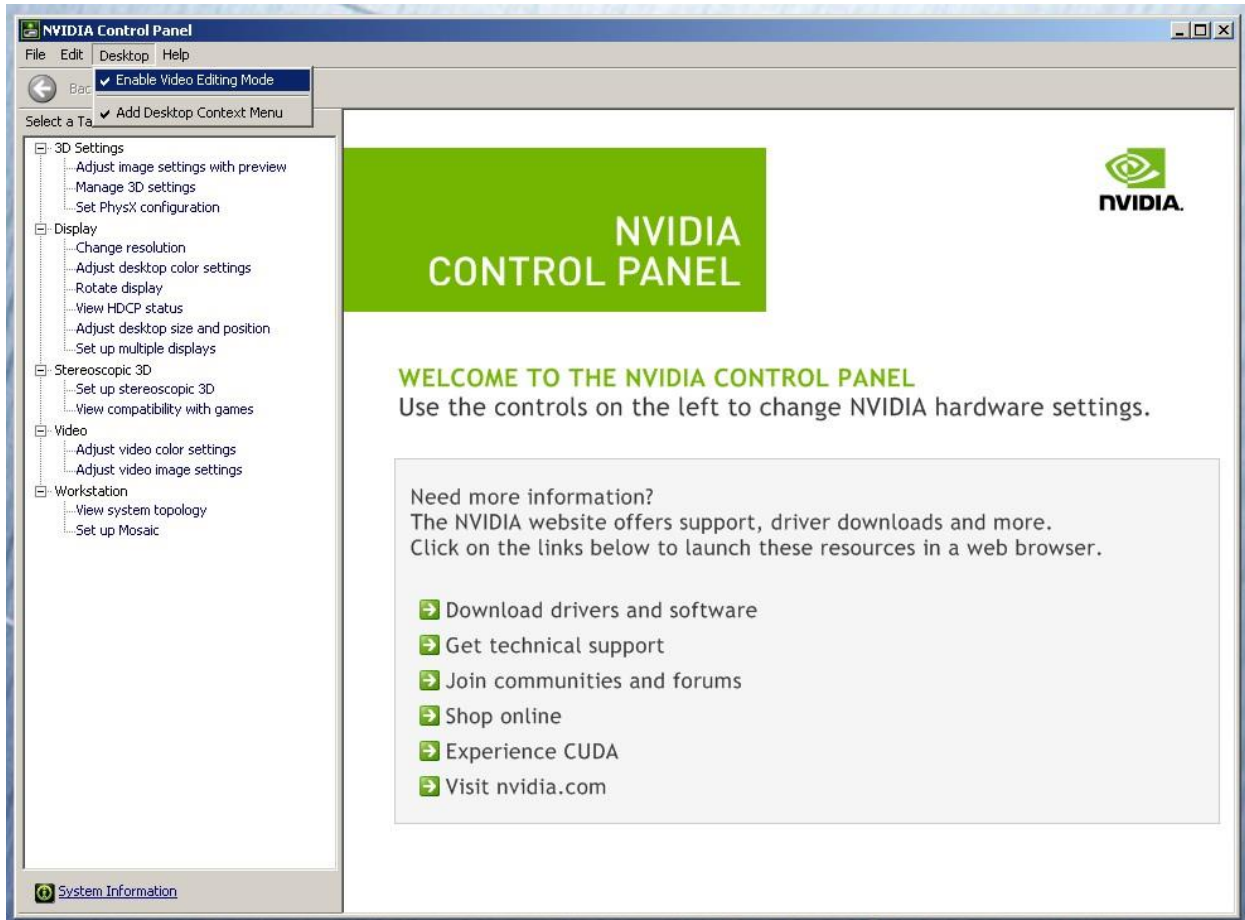
8.) Graphics Drivers:

AVIDSoftware	Version(s)	GPU	Driver Required
Media Composer	2020.6 and later	Nvidia P620, P1000, P2200, RTX 4000	Nvidia 442.50
Media Composer	2019.12.x	Nvidia P620, P1000, P2200, RTX 4000	Nvidia 441.28

After installation of the AVID software the supported Nvidia driver can be found in the following directory:
Program Files / Avid / Utilities / Nvidia.

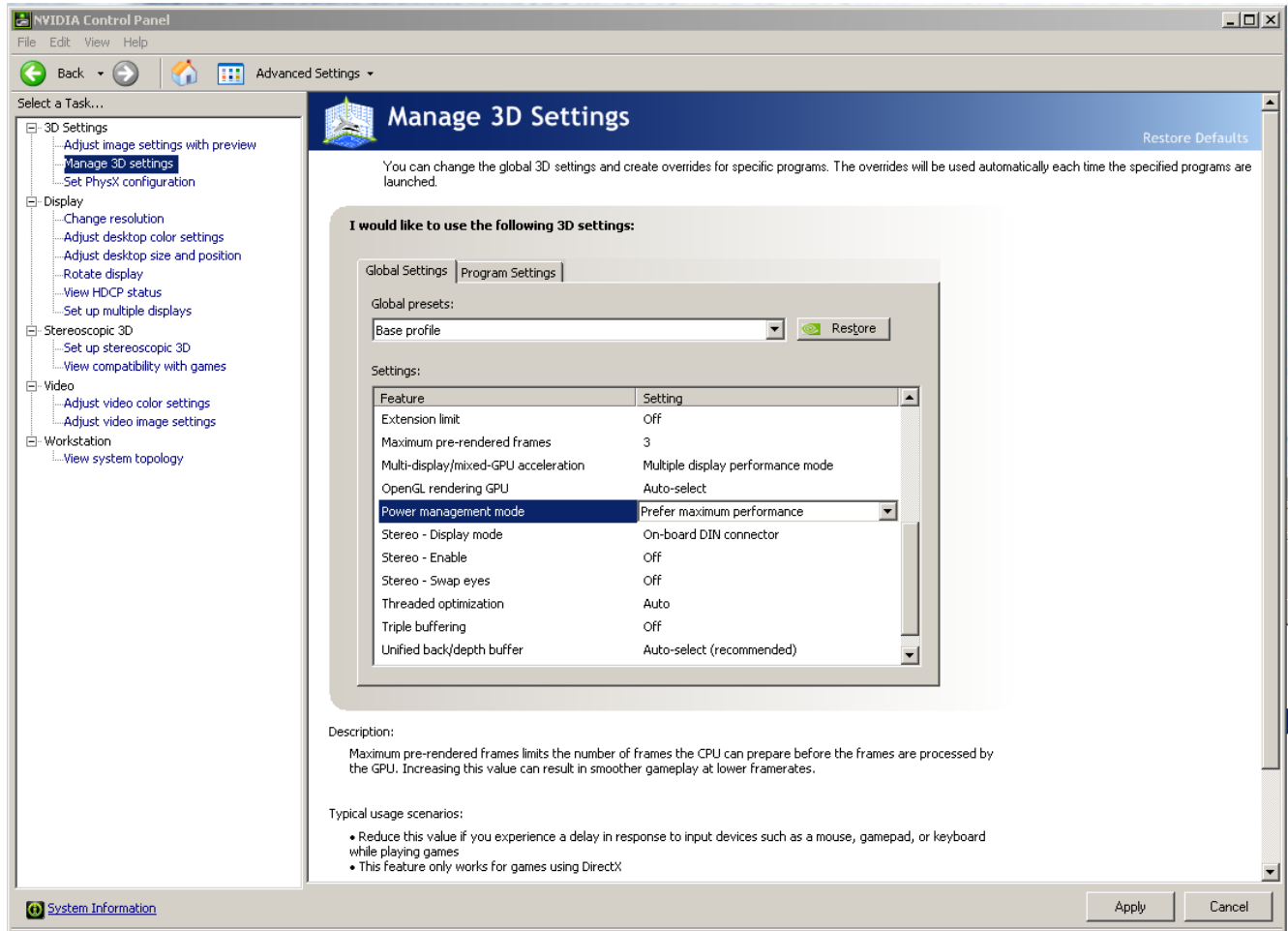
Set optimized Nvidia driver settings for Avid editing environments:

1. See picture below
2. Right-Click on the desktop and select Nvidia Control Panel
3. Select the “Desktop” menu selection in the control panel menu bar.
4. Enable “Desktop -> Video Editing Mode



5. Select Manage 3D Settings
6. Select “Global Settings” Tab
7. Under the “Global Settings” tab select “3D App – Default Global Settings” (Same as Base Profile)
8. Scroll down and locate the “Power Management Mode” feature. The default setting is “Adaptive”

- For the “Power management mode” feature, select “Prefer maximum performance” as shown in the picture below.



- Depress the “Apply” button.

- Nvidia driver optimization settings for Avid environments are complete.

9.) GPU monitor connectivity:

The Nvidia Quadro P2200 graphics card has four Display-Port ports. The P620 and P1000 has 4 mini-display ports. All 4 ports can be used simultaneously.

(Important: Display-ports are not HDMI ports; at first glance they do look very similar to HDMI ports)

10.) Serial Port Deck Control

The LENOVO P340 workstation does NOT have an embedded serial port. Primary or secondary / additional serial port deck control can be established via USB to serial adapters. See Avid KB for more info.

11.) O.S. setting recommendations for optimum performance with Avid Editing applications:

The following links provide O.S. setting suggestions for ensuring optimum performance when working with your Avid editing application with a Windows operating system.

- Optimizations for Video Editors - windows 10

http://avid.force.com/pkb/articles/en_US/Troubleshooting/Media-Composer-Windows-10-Optimizations-and-Troubleshooting

Revision Update

Revision	Date	Name	Update
Rev A	Oct 21, 2020	Dave Pimm	Initial release of the LENOVO P340 configuration guide