



**Avid Configuration Guidelines  
Boxx Apex T4 Rack mount workstation  
32 to 64 Core CPU System**



## 1.) Boxx Apexx T4 AVID Qualified System Specification:

### Hardware Configuration

#### Supported AMD Threadripper CPU Choices

- AMD Ryzen Threadripper 3970X 3.7 Ghz, turbo up to 4.5 Ghz 32-core
- AMD Ryzen Threadripper 3990X 2.9 Ghz, turbo up to 4.3 Ghz 64-core

#### Notes –

- Higher CPU speeds are preferred over CPU core count for MC application

#### Supported Video Cards

- 1.) NVIDIA RTX5000 16GB PCI-e Gen 3 video board
- 2.) AMD Radeon Pro W5700 8GB PCI-e Gen 4 video board

System Disk Drive – 512 GB SATA SSD (recommended). BOXX offers higher performing solid-state, NVMe, and SAS boot drive options which are acceptable. Recommend a BOXX qualified drive be selected.

#### Standard AVID memory configuration:

- Systems with AMD Ryzen Threadripper CPU's use DDR4-3200MHz memory (up to 8 DIMMs per system)
- Each CPU has 4 memory lanes – optimal bandwidth when all 4 memory lanes filled
  
- 64GB (4 x 16GB) DDR4 3200 MHz ECC memory – (Requires four 16GB DIMMs)

Memory modules must be installed according to manufacturer's requirements

#### Optional AVID memory configuration:

- 32GB (4 x 8GB) DDR4 3200 MHz ECC memory – (Requires four 8GB DIMMs)
- 64GB (8 x 8GB) DDR4 3200 MHz ECC memory – (Requires eight 8GB DIMMs)
- 128GB (4 x 32GB) DDR4 3200 MHz ECC memory – (Requires four 32GB DIMMs)
- 128GB (8 x 16GB) DDR4 3200 MHz ECC memory – (Requires eight 16GB DIMMs)
- 256GB (8 x 32GB) DDR4 3200 MHz ECC memory – (Requires eight 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 Boxx Apexx T4:**

**Boxx Supports:**

- **Microsoft® Windows 10 Pro Workstation/ Enterprise 64-bit Edition Version 1909 or later**

**See microsoft win 10 lifecycle fact sheet for supported Win 10 versions:  
<https://support.microsoft.com/en-us/help/13853/windows-lifecycle-fact-sheet>**

**Not Supported –**

- **Microsoft® Windows 7 – any version**
- **Microsoft Windows 8 or 8.1 – any version**
- **Microsoft Windows 10 1809 or before**

<b>Media Composer Application</b>	<b>Minimum Rev</b>
Media Composer 19.x	2019.12 or later required
Media Composer 18.12.x	Not supported

\* Nvidia RTX5000 require Nvidia driver that is qualified with the version of MC 2019.12 and above

\* AMD W5700 requires AMD driver released 19.Q4 or later

The required GPU files and installation instructions for AMD graphics can be found at the following Avid KB link:

[http://avid.force.com/pkb/articles/en\\_US/download/AMD-Supported-GPU-Drivers](http://avid.force.com/pkb/articles/en_US/download/AMD-Supported-GPU-Drivers)

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

	<b>Qualified / Supported</b>
Nitris DX/Mojo DX	<b>NOT SUPPORTED - EOL</b> (requires PCIe gen 1 or 2 slot which is not available on this system) – causes system hang when MC upgraded
Artist DNxIO/ DNxIQ (PCIe or thunderbolt connection)  Artist DNxIV/DNxIP/DNxID (thunderbolt 3 connection)	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 DNxIO/IQ.  <u>Thunderbolt Guidance</u>  Thunderbolt 2 & 3 - higher system over-head, not recommended to share Thunderbolt devices on the same TB bus with DNxIO/IQ, DNxIV/IP, DNXID  DNxIO would require TB3 to TB2 converter
3 <sup>rd</sup> Party Qualified Hardware	See release notes and Avid website for information regarding supported 3 <sup>rd</sup> party hardware (vendor qualified).
NEXIS Ultra Hi-res (10Gbit) client Intel X550 Onboard dual RJ45	Avid NEXIS Pro, E2, E2 SSD, E4, E5, E5 NL Nexis V19.12.1 or later

Notes:

Some PCIe gen 1 or gen 2 cards do not work in gen 4 slots in this system. The BMD Decklink 4k Extreme 12G does NOT work with MC at this time.

#### 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
Gigabyte Thunderbolt 3 adapter card	Not stocked by AVID	#4	Gigabyte GC-Titan Ridge PCIe add-in card
Vendor qualified 3 <sup>rd</sup> party hardware x8 PCI-E	Not stocked by AVID	#3	Vendor qualified 3 <sup>rd</sup> party hardware interface. See release notes and Avid website for information regarding supported 3 <sup>rd</sup> party hardware
Intel X550 dual port 10Gb	Not stocked by AVID	onboard	Network Interface to Nexis

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
- Network support for Nexis only – No support for Avid ISIS storage

**5.) Slot Configuration:**

<b>Slot Configuration Information</b>			
<b>Slot #</b>	<b>Electrical</b>	<b>Mechanical</b>	
1	X16 PCI-e Gen 4	x16 Double wide	Graphics Card: Nvidia RTX 5000 AMD Radeon Pro W5700
2	X8 PCI-e Gen 4	x16	Available slot
3	X16 PCI-e Gen 4	x16	Avid Artist PCIe interface card OR 3 <sup>rd</sup> party Open IO PCIe card
4	X8 PCI-e Gen 4	x16	Gigabyte Thunderbolt 3 PCIe card
M1	M.2 slot 1 PCI-E Gen 4	M.2 x4	M.2 nVMe storage
M2	M.2 slot 2 PCI-E Gen 4	M.2 x4	M.2 nVMe storage
M3	M.2 slot 3 PCI-E Gen 4	M.2 x4	M.2 nVMe storage
M4	M.2 slot 4 PCI-E Gen 4	M.2 x4	M.2 nVMe storage
	Embedded Intel X550 Dual port 10Gb NIC	Onboard PCI-e ports	Qualified for Avid Nexis only (No Isis support)

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

The Apexx T4 has two embedded NIC ports (Intel X550). Both ports are qualified for Nexis.

For proper operation and connectivity of the Intel network interface with NEXIS the following settings are required (this is done automatically by Nexis install):

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.

Required system BIOS changes:

1. Verify CPU Hyper-Threading is Enabled

## 8.) Graphics Qualified

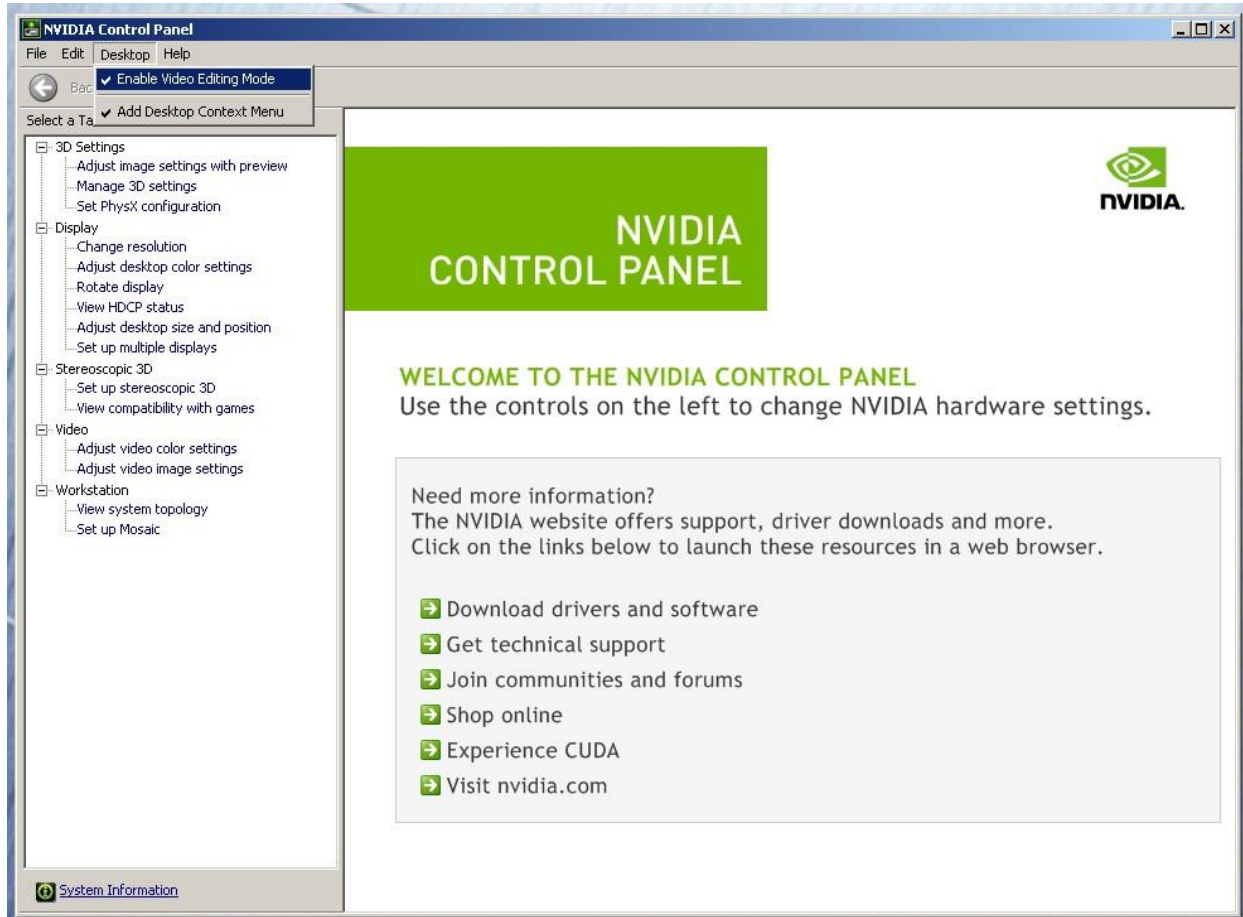
Drivers:

AVID Software	Version(s)	GPU	Driver Required
Media Composer	2019.12	Nvidia RTX5000	441.28
Media Composer	2019.12	AMD Radeon Pro W5700	AMD 19Q4

\*\* Neither graphics driver is included with MC release builds. You can find links to this driver on the Avid Media Composer Documentation and Version Matrix web page  
[http://avid.force.com/pkb/articles/en\\_US/compatibility/en267087](http://avid.force.com/pkb/articles/en_US/compatibility/en267087)

## **Set optimized Nvidia driver settings for Avid editing environments:**

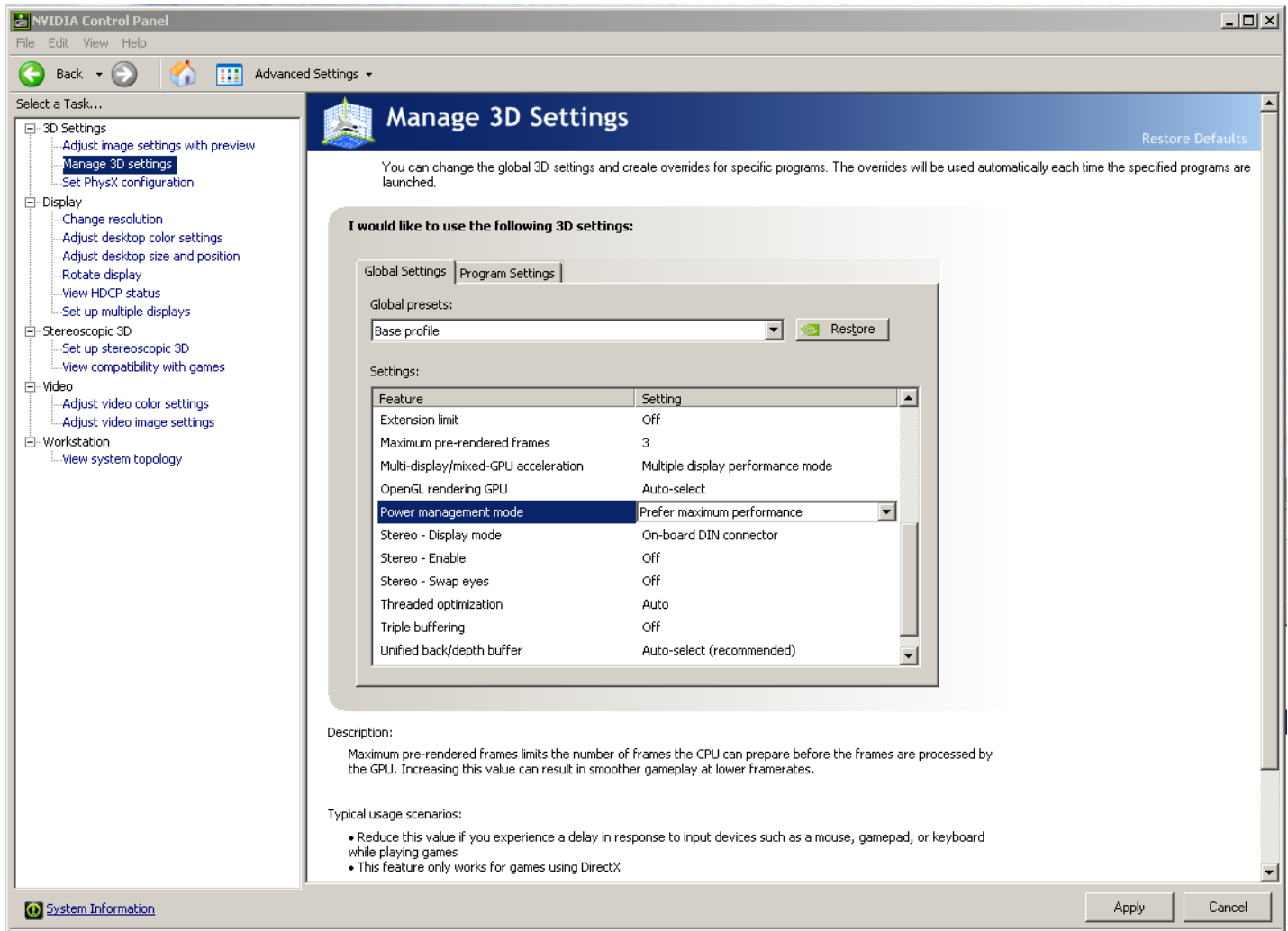
1. See picture below
2. Right-Click on the desktop and select Nvidia Control Panel
3. Select the “Desktop” menu selection in the control panel menu bar.
4. Enable “Desktop -> Video Editing Mode



5. Select Manage 3D Settings
6. Select “Global Settings” Tab
7. Under the “Global Settings” tab select “3D App – Default Global Settings” or “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.

## **E.) GPU monitor connectivity:**

The Nvidia RTX5000 has 4 Display Ports. All 4 ports can be used simultaneously.

The AMD W5700 graphics card has 5 mini display ports.

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

## **F.) Serial Port Deck Control**

The BOXX APEXX T4 workstation does NOT have an embedded serial port. Primary or secondary / additional serial port deck control can be established via two methods (both of which have been qualified by Avid and will maintain frame accuracy in Avid environments)

1. Addenda model **RS-USB / 4** direct USB-to-RS422 serial adapter. This is a simple device which connects directly from a USB port to the RS422 port of a deck.  
<http://www.addenda.com/addenda-elect/products/rsUSB4.php>
2. Combination of a Keyspan (Tripp-Lite) Model USA-19HS USB-to-serial-port adapter with Addenda Rosetta Stone model RS – 2/8 RS232-to-RS422 converter
  - Keyspan (Tripp-Lite) Model USA-19HS (AVID P/N 7080-20013-01)  
<http://www.tripplite.com/en/products/model.cfm?txtSeriesID=518&EID=13384&txtModelID=3914>
  - Addenda Rosetta Stone (or equivalent) model RS – 2/8 RS232-to-RS422 converter (AVID P/N 7070-00507-01)  
<http://www.addenda.com/addenda-elect/products/rs28.php>

### To connect the Keyspan 19HS / Addenda RS -2/8 combination:

- Install the Keyspan 19HS driver before plugging the device into USB port.
- Once the Keyspan 19HS driver is installed then plug the Keyspan 19HS into a USB port.
- The Keyspan 19HS will now show up in device driver.
- Using a serial cable, connect the 9-pin serial port of the Keyspan 19HS USB adapter to the port of the Addenda marked RS232 from PC
- Using a 2<sup>nd</sup> serial port cable connect the port of the Addenda marked “RS422 to VTR” to the deck control serial port of the deck.

## **G.) O.S. setting recommendations for optimum performance with Avid Editing applications:**

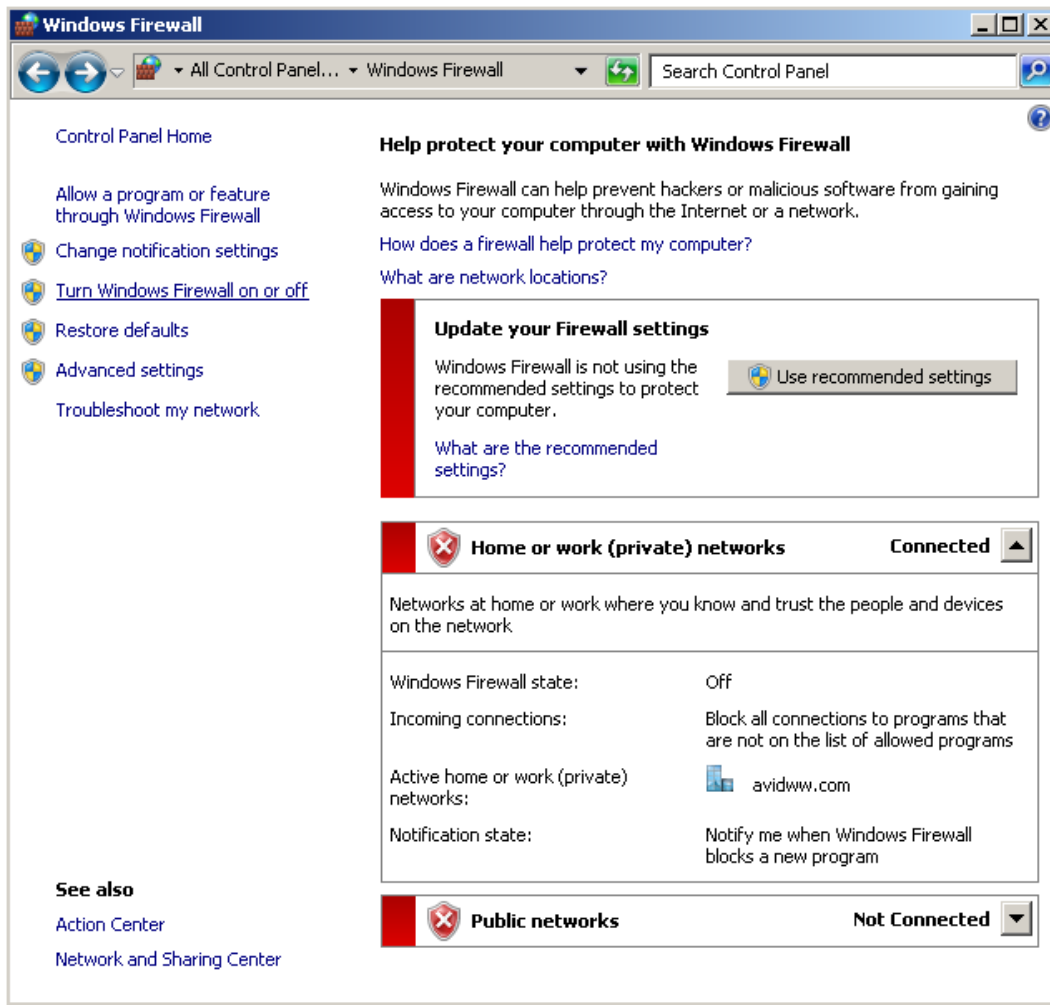
The following links provide O.S. setting suggestions for ensuring optimum performance when working with your Avid editing application with a Windows operating system.

- Optimizations for Video Editors - windows 10

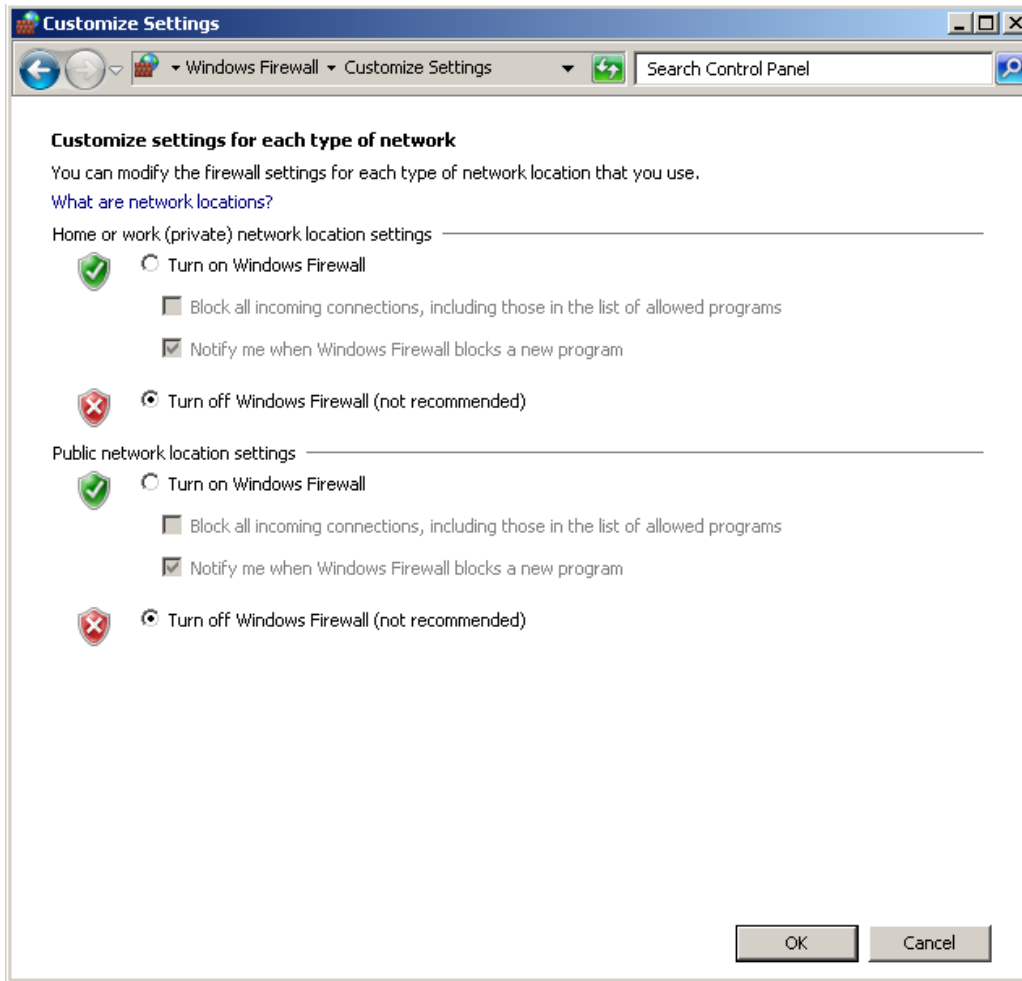
[http://avid.force.com/pkb/articles/en\\_US/Troubleshooting/Media-Composer-Windows-10-Optimizations-and-Troubleshooting](http://avid.force.com/pkb/articles/en_US/Troubleshooting/Media-Composer-Windows-10-Optimizations-and-Troubleshooting)

J.) Disable the windows firewall:

*Navigate to Control Panel / Windows Firewall -- Select Turn Windows Firewall on or off*



Select Turn off windows firewall in both network locations, OK to save



### **Revision Update**

Revision	Date	Name	Update
Rev A	April 3, 2020	Dave Pimm	Initial release of the Boxx Apexx T4 configuration guide