

Autodesk CAD Workstation Best Practices Guide

Choosing Components



CPU & CPU Cooling

Choose a CPU with a very high single-core speed as most functions in AutoCAD, Civil 3D® and Revit are single threaded. Currently, the Intel® I9 14900K or I7 14700K test extremely well on [single threaded benchmarks](#) and would be good choices for the workhorse of your workstation.

Make sure your case or cooling system does not allow the CPU to overheat or it will automatically be throttled (slowed) to a speed where it can maintain the proper temperature. In general, most gaming cases will do a good job with airflow. A good example is the [Fractal® Torrent](#) or [Torrent Compact](#).

I9 CPU's can be air cooled to avoid the problems associated with liquid cooling but it does take a specialized CPU cooler similar to those made by [DeepCool®](#) or [Noctua®](#)

Motherboard, RAM & Hard Drive

Use a quality motherboard, RAM and a NVME M.2 Solid State Drive (SSD) for the fastest read/write speeds. We recommend ASUS®, Samsung® and Samsung® respectively but other brands of similar quality are fine.

Opt for the highest speed ram per your CPU/motherboard specification and do not use XMP (memory overclocking) to ensure stability. Most manufacturers do this for you and you can turn off XMP in the BIOS even if it is the default of the manufacturer. There are steps below to help you check your RAM for errors.

Video Card (GPU)

Choose an NVIDIA® RTX™ GPU with [Autodesk Certified Driver](#), ensuring stability and compatibility with Autodesk software. Certified drivers ensure hardware acceleration remains on so you can get the full benefit of your GPU. GeForce NVIDIA® RTX™ GPUs may also be considered for demanding visual tasks beyond traditional CAD work (point clouds, rendering, etc) but are not required for most Autodesk functions and currently do not have certified drivers.

Optimization Recommendations

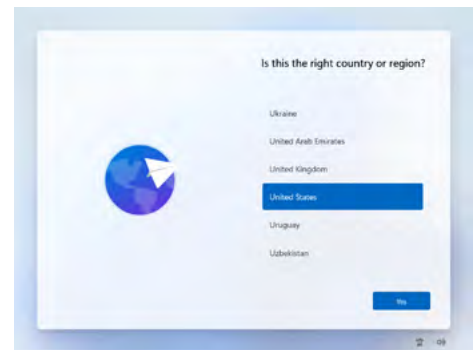
If you purchase your computer or build it yourself please consider our recommendations below.

Testing Your RAM

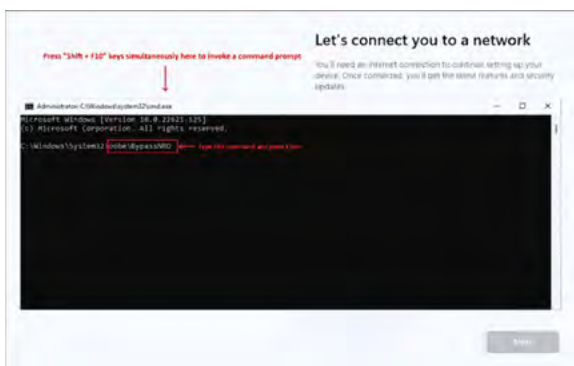
Test RAM at least overnight, there should be zero errors. Use [memtest86](#) or similar for RAM testing. For memtest86 start with the link above then navigate to the download page and download “Memtest86 Free”. Insert a USB into your computer and run the imageUSB.exe file. Once the program is running, you’ll select your USB drive and click “Write” at the bottom left-hand side. This will create a bootable memtest86 USB. Boot from the USB to enter memtest86 and start the test.

Installing Windows 11

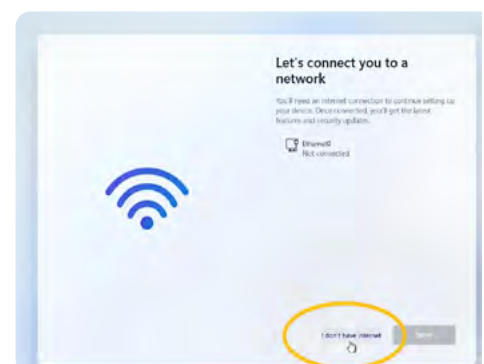
To skip making a Microsoft® account, while installing Windows 11 or when completing the one time installation on your new computer do not plug in the ethernet cord. After the installation is complete, or when you turn on your new computer, you’ll arrive at the “Is this the right country or region?”



Hit shift + F10 to open CMD, then type OOBE\BypassNRO, this will restart the computer and bypass the windows constraint for creating a Microsoft account.



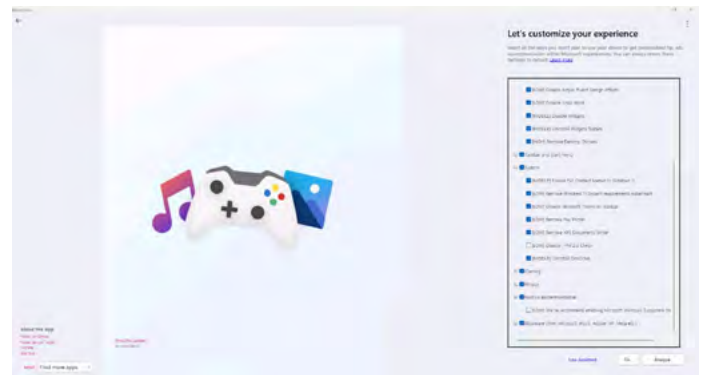
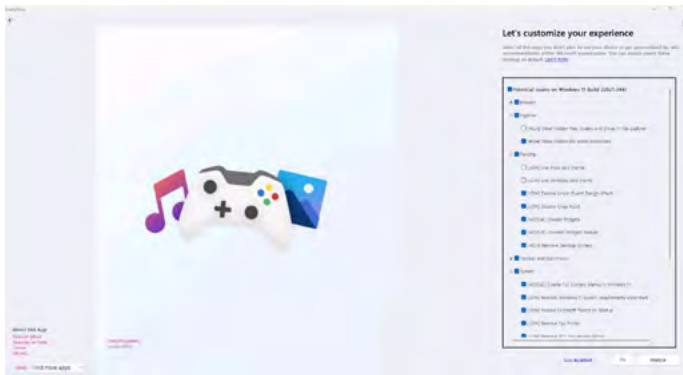
After the workstation restarts go through the windows installation setup and once you arrive at “Let’s Connect you to a network” go to the bottom right-hand side and click on “I don’t have internet” button, you’ll then need to click “Continue with limited setup” This will allow you to bypass the Microsoft account creation and create a local account.



After the post installation setup is finished, plug in your ethernet cord or connect to WiFi. Then go to the search bar on the task bar and type “Settings” then click “Windows Updates” to get the latest Windows 11 version + any patches. To enable High Performance on your workstation, open: Control panel > Hardware and Sound > Power Options, click the dropdown for “Show Additional Plans” and click “High Performance”

Debloating Windows

If you want to debloat your Windows installation, use [BloatyNosy](#) or similar software. Below are the settings we usually disable, you can choose to remove or leave the ones you want. Click on the link above, scroll to the bottom of the page and click on page 3. Find BloatyNosyApp 0.85 and download it, run the Bloatynosity program and select each drop down to choose the settings you prefer disabled. If you wish to undo any settings, click the “Fix” button at the bottom right and restore to default Windows 11 settings.



Browser

- Disable AI chat bar in Edge Browser
- Disable Google Chrome telemetry

Explorer

- Show hidden file name extensions

Desktop

- Disable snap assist
- Disable Widgets
- Uninstall widgets features
- Remove desktop stickers

Taskbar & Start Menu

- Hide search icon on taskbar
- Hide chat icon (Microsoft Teams) on taskbar
- Hide task view button on taskbar
- Hide most used apps in start menu
- Pin more apps to start menu

System

- Enable Full context menus in windows 11

- Remove windows 11 system requirements watermark
- Disable Microsoft teams on startup
- Remove fax printer
- Remove XPS documents writer

Gaming

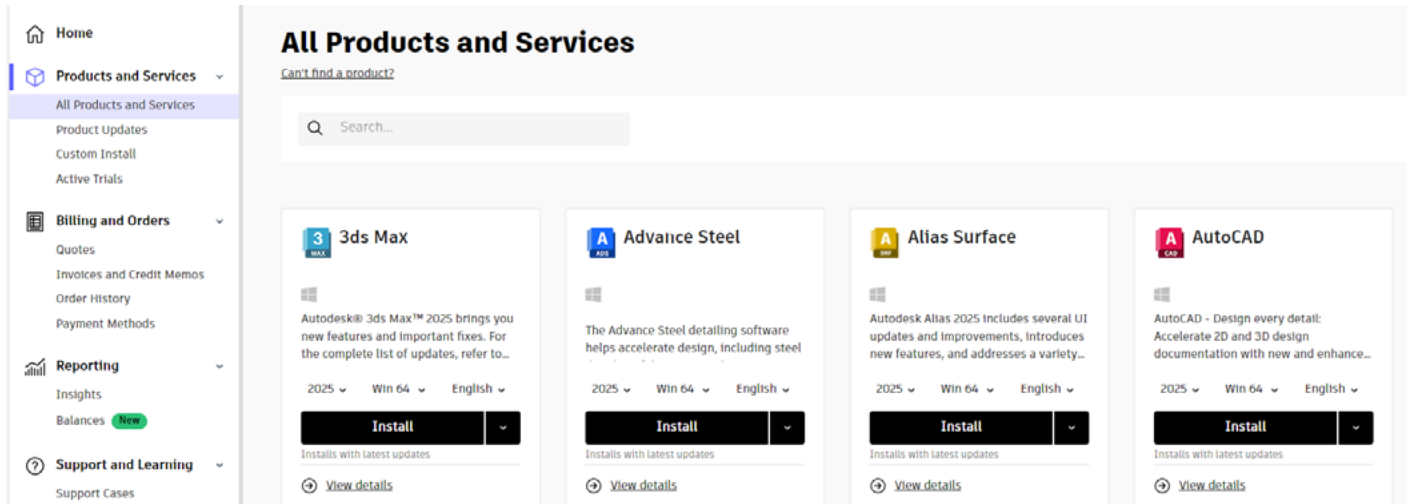
- Disable Game DVR feature
- Disable Power throttling
- Adjust visual effects for best performance

Privacy

- Disable Diagnostic data
- Disable connected user experiences and telemetry
- Disable Compatibility telemetry
- Disable location tracking
- Disable advertising ID for relevant ads
- Disable automatic installation of apps
- Disable windows tips
- Disable tailored experiences
- Disable apps running in background

Installing Autodesk Software

If you want to load your Autodesk software open your preferred browser, and login to accounts.autodesk.com. In the right-hand corner click on your profile for a drop-down menu and find “Products and Services”



Once you arrive at the “Products and Services” page search for software you want to install. Select the version and click the install button.

Purchase Your Workstation with CAD Masters

In addition to all the things above, if you purchase a workstation from CAD Masters you can count on:

- Free [pre-purchase consultation](#) and post-purchase support by phone, email or web meeting from a company that understands your Autodesk products and can help you troubleshoot any hardware, software, or configuration problem.
- Competitive pricing and top-tier components with lead times less than 2 weeks. Our prices are very competitive with major brand computer manufacturers, usually besting them on price for the same components.
- One year parts and labor warranty included.
- We test our case and cooling configurations extensively to ensure your expensive CPU or GPU is never throttled due to heavy workloads and our wire management is excellent.
- We can also load your AutoCAD, Revit or Civil 3D® so you are ready to work as soon as possible.

On the following page, we have links to our 4 pre-built CAD Workstations, tailored to meet your unique design needs. Click on each workstation to explore the full specifications and see how they can enhance your CAD workflow.

All of our workstations are fully customizable with our online workstation builder tool. If you have specific requirements or need assistance in configuring the perfect workstation for your projects, we're here to help. Don't hesitate to fill out a [hardware consultation request](#) or give us a call at (925) 939-1378. Our experienced team is ready to guide you through the process and ensure you get the ideal workstation for your CAD needs.

CAD Masters Workstations

Our pre-configured CAD workstations are specifically tailored to meet the demands of every level of CAD work– from 2D drafting all the way to Lidar data processing, ensuring that you have the right tools to get the job done efficiently.

Standard CAD Workstation

This workstation offers a balance of performance and affordability, making it the ideal choice for a wide range of design and engineering tasks.

[View Specs & Learn More](#)

Premium CAD Workstation

Exceptional performance makes it the ideal choice for demanding design and engineering tasks using software such as AutoCAD, Civil 3D, and Revit.

[View Specs & Learn More](#)

Premium+ CAD Workstation

This workstation is meticulously designed to deliver exceptional results and is recommended for all Autodesk and CAD software.

[View Specs & Learn More](#)

Ultimate CAD Workstation

Top-of-the-line hardware & unparalleled capabilities in handling complex designs, rendering 3D models, and running resource-intensive simulations

[View Specs & Learn More](#)