



PugetBench for Adobe CC Suite

User Guide Version 0.8 BETA

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About PugetBench

Adobe's Creative Cloud suite includes industry leading applications for graphic design, photography, video editing, and a host of other creative workflows. Even though these applications are all developed by Adobe, each utilizes the hardware in a computer in very different and unique ways. Because of this, it can be extremely difficult to determine exactly what hardware will give the end user the best possible performance.

Due to a lack of repeatable and consistent benchmarks for these popular applications, we decided to develop our own set of benchmarks. Our suite of Adobe CC benchmarks are designed to thoroughly test many of Adobe's most popular software packages using real world projects and workflows and are used in many of our [hardware analysis articles](#).

While free versions of our benchmarks are available that allow individuals to evaluate the performance of their own system, we also have specific commercial use versions that include features that are often desired by those performing testing for commercial applications (system reviewers, hardware/software developers, workstation manufacturers, etc.).

This version includes permission for commercial applications, CLI automation, .csv result logging, and email support. More information, including licensing options, is available at https://www.pugetsystems.com/go/PugetBench_Adobe

Guides for the individual benchmarks (what is tested, system requirements, supported application versions, how to manually run the benchmark, etc) is available at:

- Photoshop - <https://www.pugetsystems.com/go/PSBenchmark>
- Lightroom Classic - <https://www.pugetsystems.com/go/LRBenchmark>
- Premiere Pro - <https://www.pugetsystems.com/go/PRBenchmark>
- After Effects - <https://www.pugetsystems.com/go/AEBenchmark>
- AERender - <https://www.pugetsystems.com/go/AERenderBenchmark>

We also have several benchmarks available for other applications outside of the Adobe ecosystem. You can view the full list at [https://www.pugetsystems.com/all_articles.php?filter\[\]=Benchmark](https://www.pugetsystems.com/all_articles.php?filter[]=Benchmark)

Download Links

The latest links for the benchmarks (the CLI utility is included inside the benchmark folder), and related files are available on the main commercial use benchmark page: https://www.pugetsystems.com/go/PugetBench_Adobe

However, the direct links for each benchmark package is:

- Photoshop: <https://www.pugetsystems.com/go/PSbenchmarkdownload>
- Lightroom Classic: <https://www.pugetsystems.com/go/LRbenchmarkdownload>
- Premiere Pro: <https://www.pugetsystems.com/go/PRbenchmarkdownload>
- Premiere Pro (extended test media):
<https://www.pugetsystems.com/go/PREbenchmarkdownload>
- After Effects: <https://www.pugetsystems.com/go/AEbenchmarkdownload>
- AERender: <https://www.pugetsystems.com/go/AERbenchmarkdownload>

Command Line Switches

The PugetBench CLI utility is located inside the “CLI Utility” directory within the main benchmark folder and requires a number of switches in order to function properly. Many of the switches have defaults that they will use if you do not input your own values. The only switch that is required and has no default is the “/license” switch.

The majority of the switches are universal for every edition of the PugetBench CLI utility, but there are a few that are specific for a particular benchmark

Universal Switches

/license _____ *required*

License key for this benchmark. If you have a suite license, use the same key for any of the Adobe benchmarks.

Example: */license* XXXXXXXXX-XXXXXXXXX-XXXXXXXXX-XXXXXXXXX

/app_loc _____

Location of the Adobe Application. This should only need to be set if you have the Adobe app installed to a non-default location or want to run the benchmark on an older (supported) version.

Defaults:

Photoshop: “C:\Program Files\Adobe\Adobe Photoshop 2020\Photoshop.exe”

Lightroom Classic: “C:\Program Files\Adobe\Adobe Lightroom Classic\Lightroom.exe”

After Effects: “C:\Program Files\Adobe\Adobe After Effects 2020\Support Files\AfterFX.exe”

Premiere Pro: “C:\Program Files\Adobe\Adobe Premiere Pro 2020\Adobe Premiere Pro.exe”

AERender is different from the others in that it must be pointed to the "PugetBench_AERender.exe" file. Default for this app_loc is "CURRENTDIR\PugetBench for AERender\PugetBench_AERender.exe"

Example: */app_loc "C:\Apps\Adobe Photoshop CC 2019\Photoshop.exe"*

/bench_loc _____

Location of the benchmark folder. Only necessary if you move the CLI utility from it's default location.

Default: "PARRENT_DIR"

Example: */bench_loc "C:\Benchmarks\PugetBench for Photoshop"*

/run_count _____

Number of times to run the benchmark.

Default: 1

Example: */run_count 3*

/rerun_count _____

Number of times to retry the benchmark if it or the Adobe application crashes.

Default: 0 (do not retry if there is a crash)

Example: */rerun_count 3*

/copy_log _____

Copy the benchmark log file to another location. If a file already exists, it appends to the end. If this is not set, a .csv log file is still generated in the benchmark folder, but just not copied to a custom location.

Default: [blank]

Example: */copy_log "Q:\Results\Benchmark.csv"*

/clear_pref

Clears all of the application preferences for the relevant Adobe application. This is a good idea to do if the Adobe application you are testing is not a fresh installation. The benchmark is NOT run if this switch is used

/cleanup

Cleans up any generated benchmark results, assets, etc. Useful if you want to copy the benchmark to another system with only the necessary files or to free up some drive space. The benchmark is NOT run if this switch is used

Premiere Pro Specific

/bench_preset _____

Which benchmark preset to use. Options are “Standard” and “Extended”

Default: Standard

Example: */bench_preset Extended*

Sample CLI commands

The easiest way to run the benchmarks is to edit the “Benchmark_Run.bat” file that is provided alongside the CLI utility. This .bat file already has the most common options set.

However, here are some additional sample commands that may be useful:

“PugetBench_PS_CLI.exe /clear_pref”

Clears the Adobe Photoshop preferences.

“PugetBench_PS_CLI.exe /license XXXXXXXX-XXXXXXX-XXXXXXX-XXXXXXX”

Runs PugetBench for Photoshop with all the default settings except for the license key.

*“PugetBench_PS_CLI.exe /license XXXXXXXX-XXXXXXX-XXXXXXX-XXXXXXX
/run_count 3 /rerun_count 3 /copy_log “%~dp0BenchmarkResults.csv”*

Runs the benchmark 3 times with a retry count of 3 for each benchmark run. Also copies the results to the “BenchmarkResults.csv” file in the current folder (“%~dp0” in a .bat file indicates the current directory)

*“PugetBench_Pr_CLI.exe /license XXXXXXXX-XXXXXXX-XXXXXXX-XXXXXXX
/run_count 10 /rerun_count 0 /preset Extended”*

Runs the Premiere Pro benchmark using the “Extended” preset 10 times, but with a retry count of 0. This will cause the benchmark to stop running the first time it, or if the Adobe application, crashes for any reason.

Adobe Application Setup

Our benchmarks attempt to test each Adobe application in the most real-world way possible, so there are very few settings that need to be changed before the benchmark can be run. These required settings are automatically set by the CLI utility, but the CLI utility does NOT overwrite settings for GPU acceleration, cache locations, reserved RAM, etc.

We highly recommend checking to make sure important settings like GPU acceleration is properly configured before running the benchmark.

Once the benchmark is complete, these settings should revert back to the original settings. The required settings that are automatically set by the CLU utility are the following:

Photoshop

If not present, the CLI utility creates a "PSUserConfig.txt" file with "WarnRunningScripts 0" in the preferences folder in order to allow script to run without showing a warning first.

Lightroom Classic

Before each run, the CLI utility sets the following:

- Spot removal tool set to: size: 75, feather: 0, Opacity: 100
- Disable tooltips
- Enable the "PugetBench for Lightroom Classic" plugin

Premiere Pro

Before each run, the CLI utility sets the following:

- Disable autosave

After Effects

Before each run, the CLI utility sets the following:

- Enable "Allow Scripts to Write Files and Access Network"
- Disable disk cache

AERender

No After Effects settings are required for the benchmark to run

Troubleshooting & Support

If you have any issues with the benchmark not properly running, there are a number of things you can try:

1. If the benchmark will not start at all, ensure that you have the appropriate command line switches set.
2. Check the individual benchmark guide to ensure that your system and software meets the benchmark's requirements.
3. Try running the benchmark manually to determine if the issue is with the CLI utility, the benchmark itself, or the Adobe application.
4. Do not attempt to use the system while the benchmark is running. Unfocusing the application window can break the benchmark in many situations.
5. Clear the relevant Adobe application's preferences either manually or with the `/clear_pref` command line switch.
6. Clear the cache files for the Adobe application.
7. The OS and Adobe application must be set to English.
8. Make sure the path to the benchmark script does not have any special or non-English characters.
9. The benchmark does not work over an unmapped network drive (I.E. `//192.168.1.2/Benchmark/`). Mapped drives *should* work, but we highly recommend having the benchmark on a local drive as storage performance can affect the results.

Lower than expected performance can be caused by a number of factors, but the most common are:

1. Outdated BIOS/drivers/software
2. Windows power profile (High Performance is recommended for the best results)
3. Adobe application settings are not correct (GPU acceleration not enabled, etc.)
4. Background tasks (antivirus, Windows Update, etc.)

If you still have issues, you can contact us for support at:

benchmark-support@pugetsystems.com

Tips

For the most reliable benchmarking process, we recommend the following tips:

- Clear the Adobe application preferences if it is not a fresh install. You can do this either manually or with the CLI's `/clear_pref` command line switch. Launch the application

manually after clearing the preferences and check that important settings like GPU acceleration is enabled.

- Launch the Adobe app at least once before running the benchmark. Creative Cloud sometimes makes you re-login (especially after changing any hardware), and while the CLI Utility can auto-generate default preferences, it is good practice to let the Adobe app generate them if possible.
- Do not attempt to use the system while the benchmarks are running. This can cause the benchmarks to break, and even if it does not can result in lower benchmark results.
- Make sure the system is not set to go to sleep or hibernate.
- Make sure you are using the latest Windows version, drivers, and BIOS.
- As these are real-world tests, the results will not be exactly the same between runs and can vary by as much as 5%. If you need highly accurate results, we recommend running the benchmark multiple times and using either the average or fastest overall result.
- Display resolution can affect the results. We typically test at 3840x2160, but higher or lower resolutions can result in slightly different results.