



HP CREATOR DEVICES

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HP ENVY



OPTIMIZING HP CREATOR DEVICES FOR ADOBE CREATIVE CLOUD

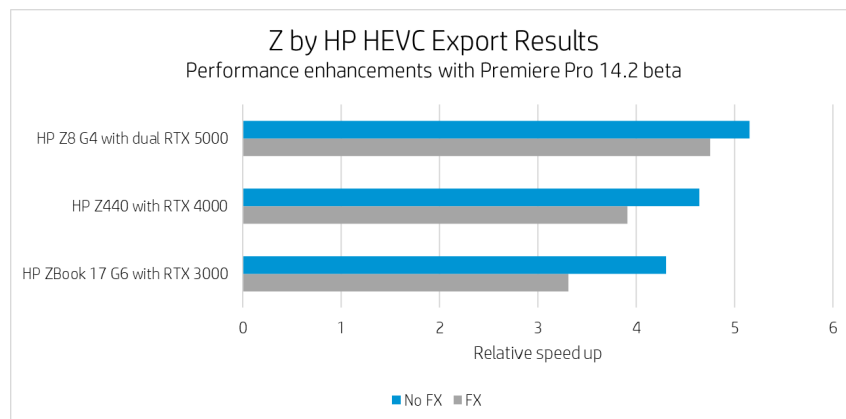
HP performance data showing benefits of GPU-acceleration enhancements for PCs in Adobe Premiere Pro and Adobe Premiere Rush

In Premiere Pro 14.2, Adobe Media Encoder 14.2, and Premiere Rush 1.5, Adobe has extended hardware support for exporting H.264 and HEVC video by employing specialized encoding features on NVIDIA and AMD GPUs. We tested the beta software on a range of HP Z and ENVY platforms¹ with NVIDIA GPUs. Preliminary results show impressive performance gains when exporting – up to 5x in some cases – compared with the previous version of the software.

Z BY HP

Our first set of results relates to the Z by HP workstation product line – mobile and desktop PCs designed for the most advanced creative professionals.

The most impressive results were seen for HEVC encoding with an average speed up of 3.8x, even with effects on the timeline. This rose to 4.4x when we removed the effects. Performance gains were fairly consistent across both mobile and desktop platforms.



Graph shows selected results. Other platforms were tested.



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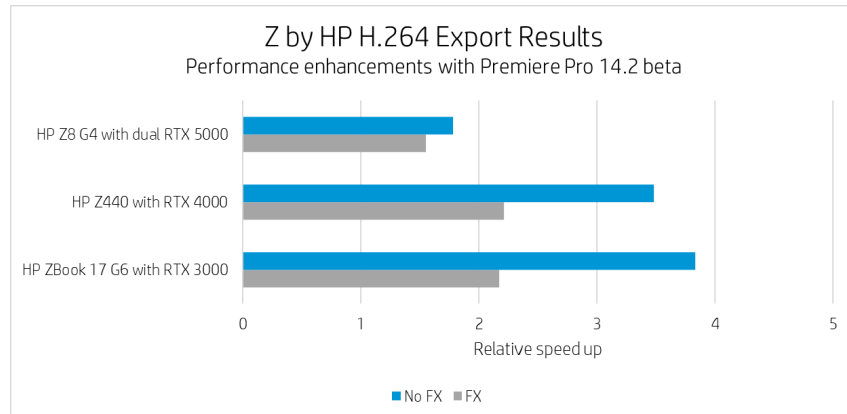
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Z BY HP (continued)

H.264 improvements were also substantial although not quite as large, ranging from an average of 1.9x with effects to 2.9x without. One of the reasons H.264 results are lower than for HEVC encoding is because the earlier version of Premiere Pro had already delivered benefits via Intel Quick Sync hardware acceleration, available in one of the platforms we tested, the HP ZBook 17.



Graph shows selected results. Other platforms were tested.

These measurements were gathered from Premiere Pro's reporting of the encoding time taken to export two versions of a simple seven-and-a-half minute 4K sequence: one clean and one with different effects applied to the clips.

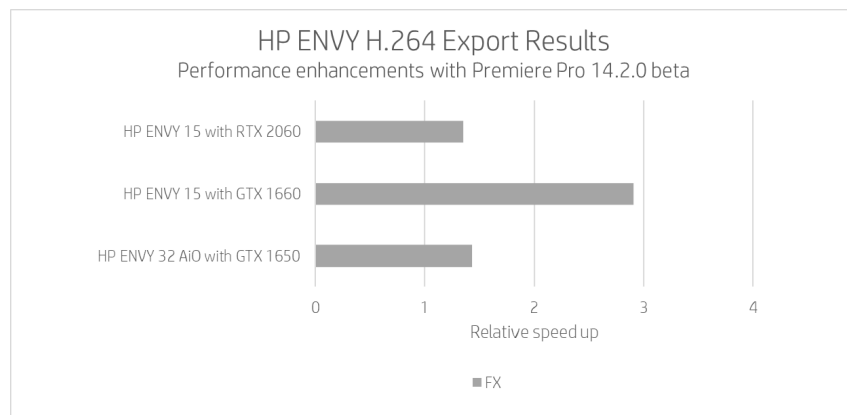
Another positive benefit of Adobe's work is that Premiere Pro can utilize a second graphics card, delivering even greater performance: when a second RTX 5000 was installed in the HP Z8 desktop the sequence with effects went from an improvement of 3.9x to 4.75x. The "no effects" export went up to 5.15x from 4.8x. Removing the effects frees the system from performing extra calculations on each frame, thereby feeding frames to the encoding hardware quicker.

HP ENVY

Our second set of test results relates to the new line of HP ENVY PCs for consumer and prosumer creators in recognition of the evolution we are seeing in the PC industry. Even before the recent events of COVID-19, customer engagement with their PC was changing. Gen Z customers spend 45% more time using their PCs than their Millennial counterparts² and now consume twice as much digital media on their PC than Millennials³. Not only that, 80% of both groups say that expressing themselves creatively is important to them⁴.

With these insights in mind, we decided to test both Premiere Pro 14.2 and Adobe Premiere Rush 1.5 beta against earlier versions on our ENVY platform.

For Premiere Pro, we used the same project file as before, exporting a 4k H.264 video at maximum render quality with GPU-based effects including Lumetri Color, Gaussian Blur, ProcAmp, and Lens Distortion. The outcome was very similar to our Z test results, with an average speed up of 1.85x.





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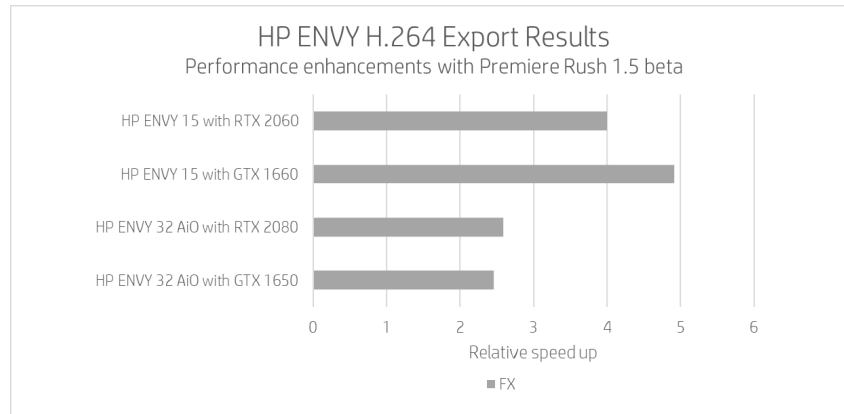
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HP ENVY (continued)

For Premiere Rush, we focused on rendering a YouTube Full HD (1080p) video file. The effects in this test included three transitions (Cross Dissolve, Dip to Black, Dip to White), and five color presets (Cinematic, SL Noir 1, SL Night, SL Matrix, SL Bleach). Based on the configuration of the systems, we experienced an impressive 3.49x performance advantage over Premiere Rush 1.2.12.



These are preliminary results and we plan to test further, incorporating more complex workloads that push both Premiere Pro and the HP platforms to the max.

By enabling optimized GPU encoding from NVIDIA, Adobe and HP have significantly decreased the rendering time of projects in Premiere Pro and Premiere Rush. This means that creators can focus more time on creating content, and less time exporting projects.

DISCLAIMERS

- HP Z and ENVY platforms used for measurements:
 - HP Z8 G4:
 - Dual Intel® Xeon® Gold 6132 (2.6GHz, 14-core/28-thread)
 - Single & Dual NVIDIA® Quadro® RTX 5000
 - 96GB memory
 - SATA SSD: Windows 10 Pro and applications
 - NVMe SSD: project, media, and exported files
 - HP Z440:
 - Intel® Xeon® E5-1680 v4 (3.4GHz, 8-core/16-thread)
 - NVIDIA® Quadro® RTX 4000
 - 64GB memory
 - SATA SSD: Windows 10 Pro and applications
 - NVMe SSD: project, media, and exported files
 - HP ZBook 17 G6:
 - Intel® Core™ i7-9850H 9th Generation (2.6GHz, 6-core/12-thread)
 - NVIDIA® Quadro® RTX 3000 & Quadro® RTX 5000
 - 16GB memory
 - NVMe SSD: Windows 10 Pro, project, media, and exported files
 - HP ENVY 15 (February 2020)
 - 9th Gen Intel® Core™ i9 processor, NVIDIA® GeForce® RTX 2060
 - 16 GB memory, 512 GB SSD
 - HP ENVY 15 (March 2020)
 - 9th Gen Intel® Core™ i7 processor, NVIDIA® GeForce® GTX 1660 Ti Max-Q
 - 16 GB memory, 512 GB SSD
 - HP ENVY 32 AiO (February 2020)
 - 9th Gen Intel® Core™ i7-9700 processor, NVIDIA® GeForce® RTX 2080
 - 16 GB memory, 512 GB SSD
 - HP ENVY 32 AiO (February 2020)
 - 9th Gen Intel® Core™ i5-9400 processor, NVIDIA® GeForce® GTX 1650
 - 16 GB memory, 512 GB SSD + 1TB HDD
- HP Proprietary Research, Device Usage study, Telemetry data for US and UK, 2019
- MetaFacts TUP survey, 11,000 consumers in US, UK, Germany, China, India; hours reflect personal and work devices, 2018
- Source: <https://www.visioncritical.com/blog/generation-z-infographics>.

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