

Solution Overview

HP Z Workstations for Autodesk Flame

Performance for the Next Generation of Flame

The HP Z4 G6i and HP Z8 Fury G6i bring a new generation of HP Z workstation performance to Autodesk Flame, running on the latest Intel Xeon 6 family of processors and NVIDIA RTX PRO™ Blackwell graphics. The new models bring the performance and capacity needed for the latest Flame workflows.

Machine learning tools, higher-resolution media, more complex projects and tight turnaround times are changing the way artists use Flame and placing greater demands on workstation performance and memory.

Why Upgrade?

Qualified and Production-Ready

For full peace of mind, Flame artists typically work with hardware configurations explicitly tested by Autodesk. The HP Z4 G6i and HP Z8 Fury G6i are available in configurations qualified for Flame Family 2027, giving artists and facilities confidence that their hardware has been tested for the creative and technical demands of Flame. Both workstations are available in Linux-ready configurations compatible with Autodesk's Rocky Linux installer for Flame.



Understanding the Customer's Workflow

What system is the customer currently running? Previous-generation hardware may struggle with higher-resolution media, complex Flame projects and newer AI and ML workflows.

What resolution are they working at? 4K and 8K media place greater demands on GPU performance, memory and storage.

Are they running into GPU memory limits? Ask whether workflows fail to run or need to be processed at lower resolutions or quality settings.

How are they using AI and ML? Ask whether they are using Flame's built-in ML tools, third-party AI tools such as ComfyUI, or both.

How complex are their projects and how do they use Background Reactor? Large Batch Groups and background rendering can increase system memory requirements. Running Background Reactor alongside an active session also increases GPU requirements. A multi-GPU configuration can provide separate GPU resources for background processing.

Does production material need to remain on premises? Some productions require AI processing to remain entirely local rather than relying on cloud-based services.

Breakthrough Performance

GPU performance has a major impact on ML, AI, and compositing workflows in Flame. NVIDIA RTX PRO™ Blackwell GPUs bring increased compute, dedicated hardware acceleration for AI and up to 96 GB GDDR7 VRAM per GPU, giving Flame artists more memory for higher-resolution media and larger AI models.

Flame includes ML-based tools to assist artists with operations such as masking, upscaling, time warping, and depth mapping. Many artists are increasingly using third-party AI tools alongside their Flame sessions for even more flexibility and creativity.

Compared with a 2020 HP Z8 G4, the HP Z4 G6i configuration tested with NVIDIA RTX PRO™ 4500 Blackwell reduced processing times by up to 52%, while the HP Z8 Fury G6i configuration tested with NVIDIA RTX PRO™ 6000 Blackwell Workstation Edition (600W) reduced them by up to 70% across the ML and AI workflows tested. In a long-range Flame benchmark combining CPU, GPU and storage performance, the HP Z8 Fury G6i completed the test in 2m 36s, compared with 9m 05s on the HP Z8 G4.

For productions that need to keep material on-premises for security reasons, the GPU performance and memory of both workstations allow demanding AI workloads to be processed locally without using cloud-based services.

Performance for Complex Flame Workflows

A professional Flame session can combine active compositing with Background Reactor and other processes, drawing on the GPU, CPU, and system memory at the same time.

Large Batch Groups and background rendering can require significant amounts of system memory. In testing, a Batch Group with 36 layers reached 155 GB of RAM when rendering 20 frames, rising to 173 GB with Background Reactor running at the same time. The HP Z4 G6i supports up to 512 GB ECC memory and the HP Z8 Fury G6i up to 2TB, giving artists more headroom for complex node trees.

Both workstations support multi-GPU configurations, allowing foreground and background processing to be split between GPUs when Background Reactor is running, so the artist can continue working with the full power of their primary GPU. The HP Z4 G6i supports up to 48 Intel® Xeon® 600 series cores and the HP Z8 Fury G6i up to 86, giving the Z8 Fury G6i additional CPU capacity when handling multiple processes at the same time. Both also use ECC memory, which detects and corrects memory errors, helping reduce the risk of crashes and corrupted renders.

Codec, I/O and Connectivity

The NVIDIA RTX PRO™ Blackwell GPUs add hardware-accelerated 4:2:2 H.264 and HEVC encode and decode, allowing high-resolution broadcast and camera-native formats to be handled directly by the GPU while freeing the CPU for other processing. Both workstations provide expansion slots for professional video I/O cards including AJA KONA and Blackmagic DeckLink, with nine slots on the HP Z8 Fury G6i and five on the HP Z4 G6i. The optional HP Max Side Panel increases chassis volume to accommodate larger GPU configurations, and optional Thunderbolt™ 5 connectivity supports external video I/O devices.



Performance Across Flame and AI Workflows

Benchmark Testing

Workflow	HP Z8 G4 HP Z8 G4 (2020): 32 Core Intel® Xeon® Gold 6226R, 192GB RAM, NVIDIA RTX™ A6000 48GB VRAM	HP Z4 G6i 24 Core Intel® Xeon® 658X, 128GB RAM, NVIDIA RTX PRO™ 4500 Blackwell, 32GB VRAM	Time Savings vs. G4	HP Z8 Fury G6i 32 Core Intel® Xeon® 676X, 256GB RAM, NVIDIA RTX PRO™ 6000 Blackwell Workstation Edition (600W), 96GB VRAM	Time Savings vs. G4
ML Inference (8K)	3m 41s	1m 46s	52%	1m 07s	70%
Beauty Masking	8m 01s	4m 55s	39%	2m 53s	64%
ML Timewarp (4K)	16m 20s	8m 48s	46%	6m 04s	63%
ComfyUI Image-to-Video (720p)	20m 54s	17m 09s	18%	9m 28s	55%
Neat NR (8K)	2m 33s	Skipped	Skipped	0m 41s	73%

The results show faster processing across Flame's built-in tools and third-party AI workflows. The HP Z8 Fury G6i completed all five tests more than 50% faster than the 2020 HP Z8 G4, with the biggest improvement reaching 73%, while the HP Z4 G6i was up to 52% faster. The tests were completed by independent Flame Artist Jan Klier using Flame 2027 and Rocky Linux 9.7.

Choose the Right HP Z for Your Flame Workflow

The ***HP Z4 G6i** is well suited to Flame Assist, finishing and day-to-day Flame work, combining the performance needed for these workflows with GPU acceleration for Flame's ML tools and third-party AI workflows. The ***HP Z8 Fury G6i** is configured for the most demanding Flame work, with greater CPU and GPU performance and more memory for complex compositing, high-resolution finishing, supporting AI-boosted workflows and running multiple processes at the same time.

**HP Z4 G6i Flame-Ready SKUs: E74FBUA#ABA, E74FBUA#ABC and HP Z8 Fury G6i Flame-Ready SKUs: E74FNUA#ABA, E74FNUA#ABC*

The Bottom Line

The HP Z4 G6i and HP Z8 Fury G6i combine NVIDIA RTX PRO™ Blackwell graphics with Intel® Xeon® processors and the memory needed for today's most demanding Flame projects, from high-resolution finishing and complex compositing to machine learning, Background Reactor and third-party AI tools.

With processing times up to 52% faster on the HP Z4 G6i and up to 70% faster on the HP Z8 Fury G6i than the 2020 HP Z8 G4 across the ML and AI workflows tested, the new HP Z workstations give Flame artists the performance to harness the latest tools and technology. From day-to-day Flame work on the HP Z4 G6i to the most demanding workloads on the HP Z8 Fury G6i, each workstation can be configured to meet the needs of the artist.

Learn More

To learn more about the HP Z8 Fury G6i and HP Z4 G6i for Autodesk Flame, contact your HP representative or visit hp.com/workstations. For a deeper dive into the latest Autodesk Flame benchmarks on HP Z8 Fury G6i and HP Z4 G6i contact Rick Hohmann, Global Media & Entertainment Lead for HP Z Workstations, rick.hohmann@hp.com.

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