HP Z Workstations Quick Reference Guide for Discrete Graphics Solutions

HP is proud to offer discrete graphics choices on all of our HP Z Workstations; from the HP ZBook family to our ultimate workstation, the HP Z8 Fury.

HP's professional graphics line-up is perfect for users who are running business critical applications who require stability, reliability, great performance, additional support, and application-specific features and optimization for things like complex design modeling, dataset manipulation, visual effects and visualization.

Note: Currently, HP Z2 Mini, HP Z2 SFF, HP Z2 Tower, HP Z1 Tower and all HP ZBooks support CPUs with built-in integrated graphics. Please refer to platform quickspecs for details on the CPU integrated graphics supported in that platform.

Update November 2025

HP Z Desktops Current Discrete Graphics Offerings

Platform	Z1 Tower G1i	Z2 Mini G1i	Z2 Mini G1a	Z2 SFF G1i	Z2 Tower G1i	Z4 Rack G5	Z4 G5	Z6 G5	Z6 G5 A	Z8 G5	Z8 Fury G5
NVIDIA Turing™ Generation Desktop Graphics											
T400E 4GB	–	–	–	–	–	–	••	–	–	–	–
A400 4GB	•	•	–	••	••	•	••	•••	•••	••	••••
A800 40GB	–	–	–	–	–	–	–	••	••	–	•••
NVIDIA® Ampere Generation Desktop Graphics											
A1000 8GB	•	•	–	••	••	••	••	•••	•••	••	••••
A4000 16GB	–	–	–	–	–	•	••	•••	•••	••	••••
A4500 20GB	–	–	–	–	–	•	••	•••	•••	••	••••
NVIDIA RTX™ Ada Generation Desktop Graphics											
RTX™ 2000 Ada 16 GB	–	•	–	•	••	•	••	•••	•••	••	••••
RTX™ 4000 Ada 20GB	–	–	–	–	••	••	••	•••	•••	••	••••
RTX™ 4000 SFF Ada 20GB	–	•	–	•	–	–	–	–	–	–	–
RTX™ 4500 Ada 24GB	–	–	–	–	•	•	••	•••	•••	••	••••
RTX™ 5000 Ada 32GB	–	–	–	–	•	•	••	•••	•••	••	••••
RTX™ 5880 Ada 48GB	–	–	–	–	•	•	••	•••	•••	••	••••
RTX™ 6000 Ada 48GB	–	–	–	–	•	•	••	•••	•••	••	••••

• single • • dual • • • triple • • • • quad

NOTE: Please refer to platform specifications and ordering guides for applicable configuration restrictions.

HP Z Desktops Current Discrete Graphics Offerings

Platform	Z1 Tower G1i	Z2 Mini G1i	Z2 Mini G1a	Z2 SFF G1i	Z2 Tower G1i	Z4 Rack G5	Z4 G5	Z6 G5	Z6 G5 A	Z8 G5	Z8 Fury G5
NVIDIA RTX PRO™ Blackwell Generation Desktop Graphics											
RTX PRO™ 2000 Blackwell 16GB	—	•	—	•	•	•	••	•••	•••	••	••••
RTX PRO™ 4000 Blackwell 24GB	—	—	—	—	•	•	••	•••	•••	••	••••
RTX PRO™ 4000 SFF Blackwell 24GB	—	•	—	•	—	—	—	—	—	—	—
RTX PRO™ 4500 Blackwell 32GB	—	—	—	—	•	•	••	•••	•••	••	••••
RTX PRO™ 5000 Blackwell 48GB	—	—	—	—	•	•	••	•••	•••	••	••••
RTX PRO™ 6000 Blackwell Workstation Edition 96GB	—	—	—	—	•	—	—	—	•	—	•
RTX PRO™ 6000 Blackwell Max–Q Workstation Edition 96GB	—	—	—	—	•	•	••	•••	•••	••	••••
AMD Graphics											
Radeon™ PRO W7500 8GB	—	—	—	—	—	•	••	•••	•••	••	•••
Radeon™ PRO W7600 8GB	—	—	—	—	—	•	••	•••	•••	••	•••
Radeon™ PRO W7900 48GB	—	—	—	—	•	—	•	•	•	•	•
Radeon™ RX 6300 2GB	•	—	—	—	—	—	—	—	—	—	—
Radeon™ RX 6400 4GB	—	—	—	—	—	—	•	•	•	•	•
Intel® Graphics											
Intel® Arc™ Pro A40 6GB	—	—	—	—	—	—	•	—	—	•	•
Intel® Arc™ A380 6GB	•	—	—	—	—	—	—	—	—	—	—

• single •• dual ••• triple •••• quad

NOTE: Please refer to platform specifications and ordering guides for applicable configuration restrictions.

HP Z Desktops Discrete Graphics Spec Summary

Graphics Module	NVIDIA® T400E	NVIDIA® A400	NVIDIA® A800	NVIDIA RTX™ A1000	NVIDIA RTX™ A4000	NVIDIA RTX™ A4500	NVIDIA RTX™ 2000 Ada
Graphics Memory	4GB GDDR6	4GB GDDR6	40GB HBM2e	8GB GDDR6	16GB GDDR6	20GB GDDR6	16GB GDDR6
Memory Bandwidth	Up to 80GB/s	Up to 96GB/s	Up to 1,555GB/s	Up to 192GB/s	Up to 448GB/s	Up to 640GB/s	Up to 224GB/s
CUDA Cores[5]	384	768	6912	2304	6144	7168	2816
Power	30W	50W	250W	50W	140W	200W	70W
Form Factor[3]	Single Slot	Single Slot	Dual Slot	Single Slot	Single Slot	Dual Slot	Dual Slot
Max Resolution (DP)[1,4]	4x 5120 x 2880 @ 60Hz	4x 5120 x 2880 @ 60Hz	N/A Compute-focused GPU	2x 7680 x 4320 @ 30Hz	2x 7680 x 4320 @ 60Hz	2x 7680 x 4320 @ 60Hz	2x 7680 x 4320 @ 30Hz
Max Displays	4	4	0	4	4	4	4
ISV Certified[2]	Yes	Yes	Yes	Yes	Yes	No	Yes

Graphics Module	NVIDIA RTX™ 4000 Ada	NVIDIA RTX™ 4000 SFF Ada	NVIDIA RTX™ 4500 Ada	NVIDIA RTX™ 5000 Ada	NVIDIA RTX™ 5880 Ada	NVIDIA RTX™ 6000 Ada	NVIDIA RTX PRO™ 2000 Blackwell
Graphics Memory	20GB GDDR6	20GB GDDR6	24GB GDDR6	32GB GDDR6	48GB GDDR6	48GB GDDR6	16GB GDDR7
Memory Bandwidth	Up to 360GB/s	Up to 280GB/s	Up to 432GB/s	Up to 576GB/s	Up to 960GB/s	Up to 960GB/s	Up to 288GB/s
CUDA Cores[5]	6144	6144	7680	12800	14080	18176	4352
Power	130W	70W	210W	250W	285W	300W	70W
Form Factor[3]	Single Slot	Dual Slot,	Dual Slot	Dual Slot	Dual Slot	Dual Slot	Dual Slot
Max Resolution (DP)[1,4]	2x 7680 x 4320 @30 Hz	2x 7680 x 4320 @ 30Hz	2x 7680x4320 @ 60Hz	2x 7680 x 4320 @ 60Hz	2x 7680 x 4320 @ 60Hz	2x 7680 x 4320 @ 60Hz	2x 7680 x 4320 @ 100Hz
Max Displays	4	4	4	4	4	4	4
ISV Certified[2]	Yes	Yes	None	Yes	Yes	Yes	Yes

HP Z Desktops Discrete Graphics Spec Summary

Graphics Module	NVIDIA RTX PRO™ 4000 Blackwell	NVIDIA RTX PRO™ 4000 SFF Blackwell	NVIDIA RTX PRO™ 4500 Blackwell	NVIDIA RTX PRO™ 5000 Blackwell	NVIDIA RTX PRO™ 6000 Blackwell Workstation Edition	NVIDIA RTX PRO™ 6000 Blackwell Max-Q Workstation Edition	AMD Radeon™ PRO W7500
Graphics Memory	24GB GDDR7	24GB GDDR7	32GB GDDR7	48GB GDDR7	96GB GDDR7	96GB GDDR7	8GB GDDR6
Memory Bandwidth	Up to 672GB/s	Up to 432GB/s	Up to 896GB/s	Up to 1344GB/s	Up to 1792GB/s	Up to 1792GB/s	Up to 256GB/s
CUDA Cores[5]	8960	8960	10496	14080	24060	24060	1792
Power	145W	70W	200W	300W	600W	300W	70W
Form Factor[3]	Single Slot	Dual Slot	Dual Slot	Dual Slot	Dual Slot	Dual Slot	Single Slot
Max Resolution (DP)[1,4]	2x 7680 x 4320 @ 100Hz	2x 7680 x 4320 @ 100Hz	2x 7680 x 4320 @ 100Hz	2x 7680 x 4320 @ 100Hz	2x 7680 x 4320 @ 100Hz	2x 7680 x 4320 @ 100Hz	7680 x 4320 @ 30Hz
Max Displays	4	4	4	4	4	4	4
ISV Certified[2]	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Graphics Module	AMD Radeon™ PRO W7600	AMD Radeon™ PRO W7900	AMD Radeon™ RX 6300	AMD Radeon™ RX 6400	Intel® Arc™ Pro A40	Intel® Arc™ A380
Graphics Memory	8GB GDDR6	48GB GDDR6	2GB GDDR6	4GB GDDR6	6GB GDDR6	6GB GDDR6
Memory Bandwidth	Up to 288GB/s	Up to 864GB/s	Up to 64GB/s	Up to 128GB/s	Up to 192GB/s	Up to 186GB/s
CUDA Cores[5]	2048	6144	768	768	1088 8 Xe-cores 8	8 Xe-cores
Power	120W	295W	32W	50W	50W	75W
Form Factor[3]	Single Slot	Triple Slot	Single Slot	Single Slot	Single Slot	Single Slot
Max Resolution (DP)[1,4]	7680 x 4320 @ 30Hz	12288 x 6912 (12K) @ 120Hz with DSC	7680 x 4320 @ 60Hz	7680 x 4320 @ 60Hz	4096 x 2160 @ 60Hz	4096 x 2160 @ 60Hz
Max Displays	4	4	2	2	4	4
ISV Certified[2]	Yes	Yes	No	No	Yes	No

HP ZBooks Discrete Graphics Offerings

Platform	ZBook 8 G1i	ZBook 8 G1a	ZBook X G1i	ZBook Ultra G1a	ZBook Studio G11	ZBook Fury G1i
NVIDIA RTX™ Ada Generation Laptop Graphics						
RTX™ 500 Ada 4 GB	▪	—	—	—	—	—
RTX™ 1000 Ada 6 GB	—	—	—	—	▪	—
RTX™ 2000 Ada 8 GB	—	—	—	—	▪	—
RTX™ 3000 Ada 8 GB	—	—	—	—	▪	—
NVIDIA RTX PRO™ Blackwell Generation Laptop Graphics						
RTX PRO™ 500 Blackwell 6GB	—	—	▪	—	—	—
RTX PRO™ 1000 Blackwell 8 GB	—	—	▪	—	—	▪
RTX PRO™ 2000 Blackwell 8GB	—	—	▪	—	—	▪
RTX PRO™ 3000 Blackwell 12GB	—	—	—	—	—	▪
RTX PRO™ 4000 Blackwell 16GB	—	—	—	—	—	▪
RTX PRO™ 5000 Blackwell 24GB	—	—	—	—	—	▪

• single • • dual • • • triple • • • • quad

NOTE: Please refer to platform specifications and ordering guides for applicable configuration restrictions.

HP ZBooks Discrete Graphics Spec Summary

Graphics Module	NVIDIA RTX™ 500 Ada	NVIDIA RTX™ 1000 Ada	NVIDIA RTX™ 2000 Ada	NVIDIA RTX™ 3000 Ada	NVIDIA RTX PRO™ 500 Blackwell	NVIDIA RTX PRO™ 1000 Blackwell
Memory	4GB GDDR6	6GB GDDR6	8GB GDDR6	8GB GDDR6	6GB GDDR7	8GB GDDR7
Max Cores[2]	2048	2560	3072	4608	1792	2560
Max Power[4]	35-60W	35-140W	35-140W	35-140W	35-75W	35-115W
Max Resolution (DP)[1]	7680x4320 @ 60Hz	7680x4320 @ 60Hz	7680x4320 @ 60Hz	7680x4320 @ 60Hz	7680x4320 @ 60Hz	5120 x 2880 @ 60Hz
Display Pipelines[1]	4	4	4	4	4	4
ISV Certified[2]	Yes	Yes	Yes	Yes	Yes	Yes

Graphics Module	NVIDIA RTX PRO™ 2000 Blackwell	NVIDIA RTX PRO™ 3000 Blackwell	NVIDIA RTX PRO™ 4000 Blackwell	NVIDIA RTX PRO™ 5000 Blackwell
Memory	8GB GDDR7	12GB GDDR7	16GB GDDR7	24GB GDDR7
Max Cores[2]	3328	5888	7680	10496
Max Power[4]	45-115W	60-140W	80-175W	95-175W
Max Resolution (DP)[1]	N/A	N/A	N/A	N/A
Display Pipelines[1]	4	4	4	4
ISV Certified[2]	Yes	Yes	Yes	Yes

Graphics Accesories

HP GFX Pwr Cbl CPU-8p to CPU-8p	HP Z4 G5, HP Z6 G5A, HP Z8 Fury G5 Part number: 6J6H7AA
HP GFX Pwr Cbl CPU-8p to x2 PCIe 8p(6+2) [P8]	HP Z4 G5, HP Z6 G5A, HP Z8 Fury G5 Part number: 6J6H8AA
HP DisplayPort to DVI Adapter	Converts a graphics card's DisplayPort output to a DVI output for use with a Single Link DVI-D monitor. Part number: FH973AA
HP DisplayPort To VGA Adapter	Converts a graphics card's DisplayPort output to a VGA output for use with a VGA monitor. Part number: AS615AA
HP DisplayPort to HDMI Adapter	Converts a graphics card's DisplayPort output to a HDMI output for use with a HDMI monitor. Part number: 2JA63AA
HP USB-C to VGA Adapter	Plug the adapter into your tablet or notebook's USB-C™ port and send your work to a monitor, projector or TV through the VGA port. Part number: 4SH06AA
HP (Bulk 12) miniDP-to-DP Adapter Cables	To connect additional displays to graphics cards with miniDP ports Part number: 2KW87A6
HP Single miniDP-to-DP Adapter Cable	To connect one additional display to graphics card's miniDP port Part number: 2MY05AA
NVIDIA® 3D Stereo Bracket	HP Z6 G5 A, HP Z6 G5, HP Z8 Fury G5, HP Z8 G5 Part number: K0A25AA
NVIDIA® Quadro® Sync II	HP Z4 G5, HP Z6 G5 A, HP Z6 G5, HP Z8 Fury G5, HP Z8 G5 Part number: 1WT20AA
NVIDIA® NVLink 3-slot Bridge	HP Z4 G5, HP Z6 G5, HP Z8 G5 Part Number: 340L3AA

Additional Resources

AMD Radeon™ PRO Graphics

LEARN MORE

Intel® Arc™ Graphics

LEARN MORE

NVIDIA RTX™ Graphics

LEARN MORE

Sources and Legal Disclaimers

HP Z Desktop Workstation notes

1 Not all video outputs of the graphics card may support the stated Max Resolution. See the card QuickSpecs for details and any restrictions.

2 Tested by select ISVs.

3 "Half height" is also known as "Low profile", "Single slot" is also known as "Single width", and "Dual slot" is also known as "Dual width."

4 Some video display modes such as 7680x4320 @60 Hz require the use of DSC (Display Stream Compression).

5 Different graphics architectures "Cores" cannot be directly compared. Cores is useful for comparing graphics that are of the same architecture, usually designated by common prefix letter(s) in the model name.

HP ZBook Mobile Workstation notes

1 See mobile workstation system specifications for display output types and max displays and resolutions supported.

2 Different graphics architectures "Cores" cannot be directly compared. Cores is useful for comparing graphics that are of the same architecture, usually designated by common prefix letter(s) in the model name.

3 All notebook designs but Fury used here requires the CPU's graphics engine to drive all display signals. Hence, it is the CPU's graphics that determines what maximum display resolution is possible to support. The maximum resolutions of the notebook's CPUs are documented in the respective notebook's Quickspecs.

4 Baseline GPU TGP (Total Graphics Power) in watts when on AC power adapter. ZBooks opportunistically enables a boosted power level above the baseline TGP when the system temperature and power consumption allow.

HP Z Workstations & Solutions

HP Z Workstations & Solutions is made to meet the uniquely high demands of power users like engineers, data scientists, and designers. Across our mobile, desktop, and rack-mounted systems, HP Z can be configured to your team's specific needs, offering the expandability, performance, and security these users and the IT teams who support them require. Cutting-edge processing power also enables HP Z to seamlessly run data intensive AI workloads, helping to keep you and your people at the forefront of innovation.



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