

Windows®. Life without Walls™. HP recommends Windows.

Graphics segment	High-end 3D			Ultra high-end 3D	
	ATI FirePro V8800	NVIDIA Quadro FX 4800	NVIDIA Quadro 5000	NVIDIA Quadro FX 5800	NVIDIA Quadro 6000 (Available October 1, 2010)
Positioning statement	Handles demanding workloads while supporting up to 4 simultaneous displays, creating a superior visual environment	Advanced features beyond 3D, with an accelerator for faster, smoother, and more interactive rich content	Design, iterate and deliver higher quality results in less time	High throughput for interactive large-model visualization plus high-performance real-time processing	Data integrity and precision is assured with ECC memory and fast double precision capabilities
Supported HP Workstations (• single; •• dual)					
HP Z400		•	•		
HP Z600		••	••		
HP Z800	••	•••	•••	••	••
Supported operating systems					
Genuine Windows® 7 Professional ¹	•	•	•	•	•
Genuine Windows® XP Professional 32-bit	•	•	•	•	•
Genuine Windows® XP Professional x64	•	•	•	•	•
Red Hat Enterprise Linux 4	•	•	•	•	•
HP Linux Installation Kit	•	•	•	•	•
Graphics memory	2.0 GB	1.5 GB	2.5 GB	4.0 GB	6.0 GB
Memory type	GDDR5	GDDR3	GDDR5	GDDR3	GDDR5
Supported with:	ATI Eyefinity Technology	SLI Connector NVIDIA Tesla C1060 Elemental Accelerator Software	Parallels Software SLI Connector	SLI Connector NVIDIA Tesla C2050, C1060 Elemental Accelerator Software	Parallels Software SLI Connector NVIDIA Tesla C2050
Connectors	4 DP outputs with 2 DP to single link DVI adapters	1 dual link DVH, 2 DP outputs with 1 DP to single link DVI adapter	2 DP, 1 Dual-Link DVH, 1 Stereo output with 1 DP to single link DVI adapter	2 dual link DVH, 1 DP 1 stereo output with 2 DVH to VGA adapters	2 DP, 1 Dual-Link DVH, 1 Stereo output with 1 DP to single link DVI adapter
Display configurations					
VGA + VGA	•	•	•	•	•
Quad Digital					
VGA + Digital	•	•	•	•	•
VGA + DisplayPort	•	•	•	•	•
Digital + Digital	•	•	•	•	•
Digital + DisplayPort	•	•	•	•	•
DisplayPort + DisplayPort	•	•	•	•	•
Dual DisplayPort + Dual Digital	•	•	•	•	•
Quad DisplayPort	•	•	•	•	•
VGA + VGA + VGA	•	•	•	•	•
VGA + VGA + Digital	•	•	•	•	•
VGA + Digital + Digital	•	•	•	•	•
VGA + DP + DP	•	•	•	•	•
VGA + VGA + DP	•	•	•	•	•
Digital + Digital + DisplayPort	•	•	•	•	•
Digital + DisplayPort + DisplayPort	•	•	•	•	•
DP + DP + DP	•	•	•	•	•
Digital + DP + VGA	•	•	•	•	•
Quad VGA	•	•	•	•	•
Max. VGA display resolution	2048 x 1536	2048 x 1536	2048 x 1536	2560 x 1600	2048 x 1536
Max. digital display resolution	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600
Number of 19"-to-30" diagonal displays supported	4 ³	2	2	2	2
Host interface	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16
Number of slots required	1 PCIe	1 PCIe x16 + adjacent slot	1 PCIe x16 + adjacent slot	1 PCIe x16 + adjacent slot	1 PCIe x16 + adjacent slot
ISV certifications	Yes	Yes	Yes	Yes	Yes
OpenGL Version	OGL 3.2	OGL 2.1	OGL 4.0	OGL 2.1	OGL 4.0
Vertex and pixel shaders	Shader Model 5.0	Shader Model 4.0	Shader Model 5.0	Shader Model 4.0	Shader Model 5.0
DirectX version	DX 11.0	DX 10.0	DX 11	DX 10.0	DX 11
Max. power consumption	<225 W	171 W – Active dual slot	150 W – Active dual slot	~220 W – Active dual slot	225 W – Active dual slot

¹ After-market option. Learn more about AMOs for HP personal workstations by visiting <http://www.hp.com/go/wsaccessories>.

² Windows 7 systems may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See <http://www.microsoft.com/windows/windows7/> for details.

³ ATI Eyefinity Technology supported on Windows 7, Windows Vista, and Linux. Up to 2 displays supported with Windows XP.

Configure and buy HP personal workstations online <http://www.hp.com/workstations>

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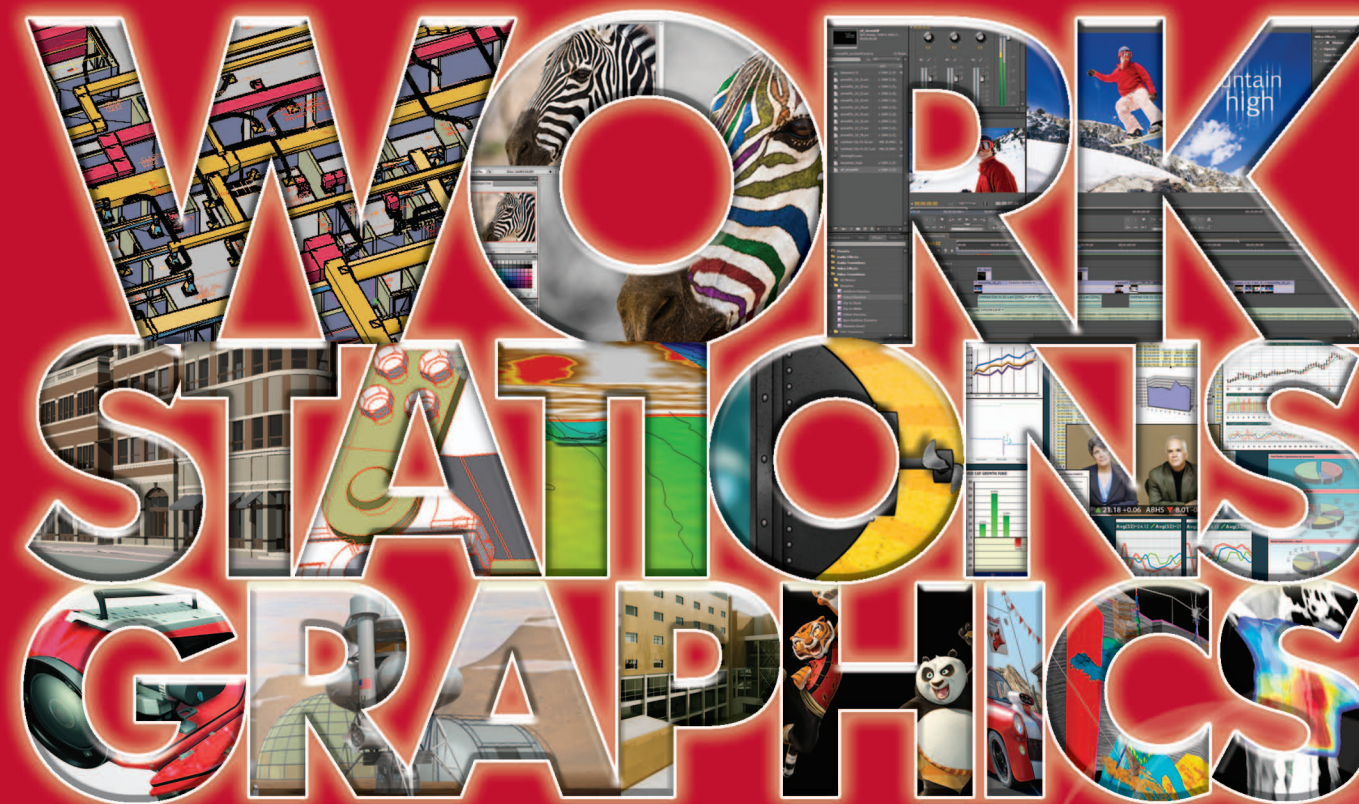
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Windows®. Life without Walls™. HP recommends Windows 7.



HP Z WORKSTATIONS— GRAPHICS CARD OPTIONS QUICK REFERENCE GUIDE



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	Integrated Graphics	Professional 2D		Entry 3D			Mid-range 3D		High-end 3D (continued on next page)			
Graphics segment	Intel HP Graphics (integrated)	NVIDIA Quadro NVS 295	NVIDIA Quadro NVS 450	NVIDIA Quadro FX 380	NVIDIA Quadro FX 380 LP	ATI FirePro V3800	NVIDIA Quadro FX 580	ATI FirePro V4800	NVIDIA Quadro FX 1800	ATI FirePro V5800	NVIDIA Quadro FX 3800	NVIDIA Quadro 4000
Positioning statement	Readily available entry graphics for your office or entertainment needs	The business standard for multi-display desktop graphics	Drives up to four displays to maximize productivity for the most demanding business users	New level of performance at a breakthrough price	New level of performance at a breakthrough price, now in a small form factor	Entry level professional 3D graphics at an unbelievable price	Uncompromised features and quality at an exceptional value	Simplify your workflow with 1GB of memory and ATI Eyefinity technology support for up to 3 simultaneous displays	Unprecedented performance for CAD, DCC, and visualization applications	Exceptional visual quality, great performance and an incredible price for the mid range	Ultimate professional GPU performance for CAD, DCC, and visualization applications	Accelerate your entire workflow
Supported HP Workstations (● single; ●● dual)												
HP Z200 SFF†	●	●●			●	●						
HP Z200†	●	●●		●		●	●	●	●	●		
HP Z400		●●	●●	●●		●●	●●	●●	●●	●●	●	●
HP Z600		●●	●●	●●		●●	●●	●●	●●	●●	●	●
HP Z800		●●	●● ¹	●●		●●	●●	●●	●●	●●	●●	●●
Supported operating systems												
Genuine Windows® 7 Professional ²	●	●	●	●	●	●	●	●	●	●	●	●
Genuine Windows® XP Professional 32-bit	●	●	●	●	●	●	●	●	●	●	●	●
Genuine Windows® XP Professional x64	●	●	●	●	●	●	●	●	●	●	●	●
Red Hat Enterprise Linux 4	●	●	●	●	●	●	●	●	●	●	●	●
HP Linux Installation Kit	●	●	●	●	●	●	●	●	●	●	●	●
Graphics memory	Shared with system	256 MB	512 MB (256 MB per GPU)	256 MB	512 MB	512 MB	512 MB	1.0 GB	768 MB	1.0 GB	1.0 GB	2.0 GB
Memory type	N/A	GDDR3	GDDR3	GDDR3	GDDR3	GDDR3	GDDR3	GDDR5	GDDR3	GDDR5	GDDR3	GDDR5
Supported with:		NVIDIA Tesla C1060		NVIDIA Tesla C2050, C1060				ATI Eyefinity Technology	Elemental Accelerator Software; NVIDIA Tesla C1060	ATI Eyefinity Technology	Elemental Accelerator Software; NVIDIA Tesla C1060	Parallels Software 3rd party stereo connector
Connectors	Z200: 1 single link DVH, 1 DP Z200 SFF: 1 VGA, 1 DP	2 DP outputs with 2 DP to single link DVI adapters	4 DP outputs with 4 DP to single link DVI adapters	2 dual link DVH outputs with 2 DVH to VGA adapters	1 dual link DVH, 1 DisplayPort output with 1 DP to DV-I adapter	1 dual link DVH, 1 DP with 1 DP to single link DVI adapter	1 dual link DVH, 2 DP outputs with 1 DP to single link DVI adapter	1 DL DVH, 2 DP with 1 DP to single link DVI adapter	1 dual link DVH, 2 DP outputs with 1 DP to single link DVI adapter	1 dual link DVH, DP outputs with 1 DP to single link DVI adapter	2 DP, 1 Dual-Link DVH output with 1 DP to single link DVI adapter	2 DP, 1 Dual-Link DVH output with 1 DP to single link DVI adapter
Display configurations												
VGA + VGA	●	●	●	●	●	●	●	●	●	●	●	●
Quad Digital			●									
VGA + Digital	●	●	●	●	●	●	●	●	●	●	●	●
VGA + DisplayPort	●	●	●	●	●	●	●	●	●	●	●	●
Digital+ Digital	●	●	●	●	●	●	●	●	●	●	●	●
Digital + DisplayPort	●	●	●	●	●	●	●	●	●	●	●	●
DisplayPort + DisplayPort		●	●				●	●	●	●	●	●
Dual DisplayPort + Dual Digital			●									
Quad DisplayPort			●									
VGA + VGA + VGA ^{††}								●		●		
VGA + VGA + Digital ^{††}								●		●		
VGA + Digital + Digital ^{††}								●		●		
VGA + DP + DP ^{††}								●		●		
VGA + VGA + DP ^{††}								●		●		
Digital + Digital + DisplayPort ^{††}								●		●		
Digital + DisplayPort + DisplayPort ^{††}								●		●		
DP + DP + DP ^{††}								●		●		
Digital + DP + VGA ^{††}								●		●		
Max. VGA display resolution	2048 x 1536	2048 x 1536	N/A	2048 x 1536	2048 x 1536	2048x1536	2048 x 1536	2048x1536	2048 x 1536	2048x1536	2048 x 1536	2048 x 1536
Max. digital display resolution	2560 x 1600	2560 x 1600	2560x1600	2560 x 1600	2560 x 1600	2560x1600	2560 x 1600	2560x1600	2560 x 1600	2560x1600	2560 x 1600	2560 x 1600
Number of 19"-to-30" diagonal displays supported	2	2	4	2	2	2	2	3 ³	2	3 ³	2	2
Host interface	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16
Number of slots required	0	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe
ISV certifications	Limited	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OpenGL Version	OGL 2.1	OGL 3.0	OGL 2.1	OGL 3.0	OGL 3.1	OGL 3.2	OGL 3.0	OGL 3.2	OGL 3.0	OGL 3.2	OGL 3.0	OGL 4.0
Vertex and pixel shaders	Shader Model 3.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 5.0	Shader Model 5.0	Shader Model 4.0	Shader Model 5.0	Shader Model 4.0	Shader Model 5.0	Shader Model 4.0	Shader Model 5.0
DirectX version	DX 10	DX 10	DX 10	DX 10	DX 11	DX 11	DX 10	DX 11	DX 10	DX 11	DX 10.0	DX 11
Max. power consumption	Shared with system	23 W	35 W – Passive	34 W	35 W	<50 W	40 W	<75 W	59 W	<75 W	107 W	140 W

† HP Z200 and HP Z200 SFF come standard with Integrated Graphics when equipped with dual-core processors. Other cards are also available. Please see product QuickSpecs for details.

†† Support for up to three and four displays with ATI Eyefinity Technology.