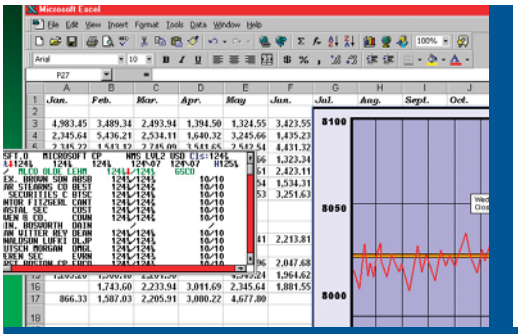
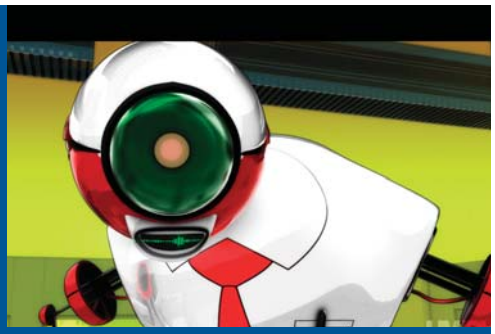
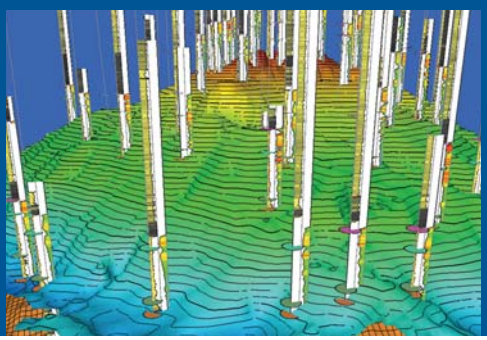
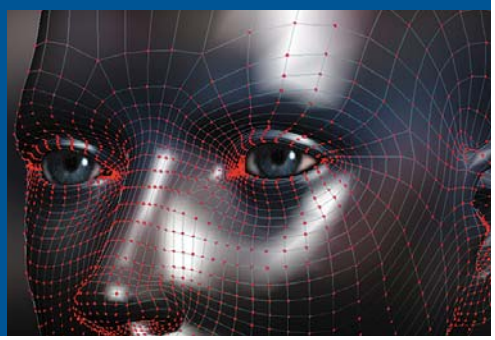
GRAPHICS CARD OPTIONS FOR HP WORKSTATIONS – QUICK REFERENCE GUIDE

YOU DESERVE A PERFORMANCE EDGE









CUSTOMER INSPIRED INNOVATIONS
PROVEN, RELIABLE PERFORMANCE
TRUSTED INDUSTRY PARTNERSHIPS

A FULL RANGE OF GRAPHICS CARDS TO MEET YOUR PERFORMANCE NEEDS – COMPARE FEATURES

	Professional 2D			Entry 3D	
Graphics segment	**NVIDIA Quadro NVS 290**	**NVIDIA Quadro NVS 295**	**NVIDIA Quadro NVS 450**	**NVIDIA Quadro FX 380**	**ATI FirePro V3700**
Positioning statement	Professional 2D graphics in a low-profile card	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	Workstation quality and performance, consumer pricing
Supported HP Workstations (● single; ● ● dual)					
HP xw4600	● ●	● ●	●	● ●	● ●
HP xw6600	● ●		●		
HP xw8600	● ●		● (AMO* only)		
HP xw9400	● ●	● ●	● ● (AMO* only)	● ● (AMO* only)	
Supported operating systems					
Genuine Windows Vista® Business 32-bit	●	●	●	●	●
Genuine Windows Vista® Business 64-bit	●	●	●	●	●
Genuine Windows® XP Professional 32-bit	●	●	●	●	●
Genuine Windows® XP Professional x64	●	●	●	●	●
Red Hat Enterprise Linux 4	●	●	●	●	●
HP Linux Installation Kit	●	●	●	●	●
Graphics memory	256 MB	256 MB	512 MB (256 MB per GPU)	256 MB	256 MB
Memory type	DDR2	GDDR3	GDDR3	GDDR3	GDDR3
SLI rendering support					
Connectors	1 DMS-59 connector with dual DVI cable kit, dual VGA cable kit available as an option	2 DisplayPort outputs with 2 DP to single link DVI adapters	4 DisplayPort with DP to single link DVI adapters	2 dual link DVI-I outputs with two DVI-I to VGA adapters	2 dual link DVI-I outputs with two DVI-I to VGA adapters
Display configurations					
VGA + VGA	●	●	●	●	●
Quad Digital			●		
VGA + Digital	●	●	●	●	●
VGA + DisplayPort		●	●		
Digital + Digital	●	●	●	●	●
Digital + DisplayPort		●	●		
DisplayPort + DisplayPort		●	●	●	
Dual DisplayPort + Dual Digital			●		
Quad DisplayPort			●		
Max. VGA display resolution	2048 x 1536	2048 x 1536	N/A	2048 x 1536	2048 x 1536
Max. digital display resolution	1920 x 1200	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600
Number of 19"-to-24" diagonal displays supported	2	2	4	2	2
Number of 30" diagonal displays supported	N/A	2	N/A	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	1 PCIe	1 PCIe	1 PCIe
ISV certifications	No	No	No	Yes	Yes
OpenGL Version	OGL 2.1	OGL 3.0	OGL 2.1	OGL 3.0	OGL 3.0
Vertex and pixel shaders	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0
DirectX Version	DX 10	DX 10	DX 10	DX 10	DX 10.1
Max power consumption	21W – Passive	23W	35W – Passive	34W	32W

A FULL RANGE OF GRAPHICS CARDS TO MEET YOUR PERFORMANCE NEEDS – COMPARE FEATURES

Entry 3D	Mid-range 3D		High-end 3D			Ultra High-end 3D
NVIDIA Quadro FX 580	**ATI FirePro V5700**	**NVIDIA Quadro FX 1800**	**NVIDIA Quadro FX 3800**	**ATI FirePro V7750**	**Quadro FX 4800/ Quadro CX**	**NVIDIA Quadro FX 5800**
Uncompromised features and quality at an exceptional value	Accelerating application performance at the mid range	Unprecedented performance for CAD, DCC, and visualization applications	Ultimate professional GPU performance for CAD, DCC, and visualization applications	Extending workstation price/performance leadership	Advanced features beyond 3D, with an accelerator for faster, smoother, and more interactive rich content	High throughput for interactive large-model visualization plus high-performance real-time processing
● ●	● ●	● ●	●	●	●	
					●	
					● ●	● ●
● ●		● ●	● ●	● ●	● ●	● ●
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	● (CX not supported)	●
●	●	●	●	●	● (CX not supported)	●
512 MB	512 MB	768 MB	1.0 GB	1.0 GB	1.5 GB	4.0 GB
GDDR3	GDDR3	GDDR3	GDDR3	GDDR3	GDDR3	GDDR3
					Yes on xw9400	Yes on xw9400
1 dual link DVI-I,2 DisplayPort outputs with DP to single link DVI adapter	1 dual link DVI-I, 2 Display-Port outputs with one DP to single link DVI adapter	1 dual link DVI-I, 2 DisplayPort outputs with one DP to single link DVI adapter	2 DisplayPort, 1 Dual-Link DVI-I output with one DP to single link DVI adapter	2 DisplayPort, 1 Dual-Link DVI-I, 1 3-pin Mini DIN stereo output with one DP to single link DVI adapter	1 dual link DVI-I, 2 DisplayPort with DP to single link DVI adapters and one 3-pin mini DIN stereo output	2 dual link DVI-I, DisplayPort, Stereo with two DVI-I to VGA adapters
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	●	●
●	●	●	●	●	●	
2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2560 x 1600
2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600
2	2	2	2	2	2	2
2	2	2	2	2	2	2
PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16
1 PCIe	1 PCIe	1 PCIe	1 PCIe	1 PCIe x16	1 PCIe x16 + adjacent slot	1 PCIe x16 + adjacent slot
Yes	Yes	Yes	Yes	Yes	Yes	Yes
OGL 3.0	OGL 3.0	OGL 3.0	OGL 3.0	OGL3.0	OGL 2.1	OGL 2.1
Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0
DX 10	DX 10.1	DX 10	DX 10	DX 10.1	DX 10	DX 10
40W	56W	59W	107W	76W	171W – Active dual slot	~220W – Active dual slot

Configure and buy HP personal workstations online at **http://www.hp.com/workstations**

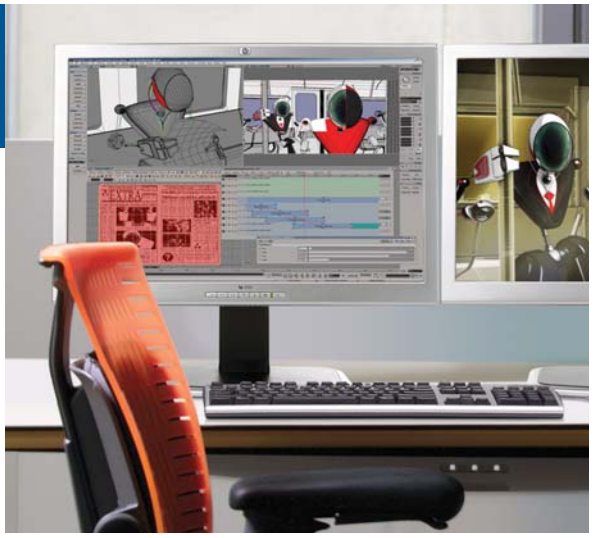
HP WORKSTATIONS – PIONEERING NEW INNOVATIONS

Performance Tuning Framework

The HP Performance Tuning Framework helps you maximize the performance and reliability of your workstation environment by giving you the ability to discover, optimize, and manage your unique combination of hardware, graphics drivers, applications, operating system, and other system resources—an exclusive HP software innovation that's included free with every HP Workstation sold with a Microsoft operating system.

Remote Graphics Software

Get high performance remote desktop access to your 2D, 3D, video, and media-rich applications—on-site or from a remote location through a standard Internet connection. Collaborate with colleagues across geographies, in real-time, using content-rich interactive applications. Sign-in to your remote workstation resources and have the desktop video, keyboard, and mouse follow you to the new access location. Connect a local USB device and virtually attach it to a remote workstation. Now you can with HP Remote Graphics Software.



Designing for the environment

HP Workstations are advancing the forefront of industry innovation with a firm commitment to reduce the environmental impact of computing. With optional ENERGY STAR® configurations and 80 PLUS power supplies standard on all new platforms, HP Workstations provide an energy-efficient, conveniently recyclable, and environmentally responsible solution.

Certain Windows Vista product features require advanced or additional hardware. See http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on you computer. To download the tool, visit http://www.windowsvista.com/upgradeadvisor.

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

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