



## Cadalyst Labs Workstation Review: Feature Table HP Z1

Company	Hewlett-Packard
Workstation	HP Z1 Workstation
Cadalyst Rating	Highly Recommended
Phone	888.728.9985
Web Site	<a href="http://www.hp.com/z1">http://www.hp.com/z1</a>
Estimated street price, as delivered	\$5,673
Starting price of model reviewed	\$1,899
Dimensions (HxWxD in inches)	23" x 26" x 16.5" (with stand)
Weight (lbs)	Exact weights depend upon configuration; Max system weight WITH stand: 21.32 kg (47 lbs); Stand weight 5.9 kg (13 lbs)
CPU type	As Configured: Intel Xeon E3-1280 Processor, 3.5GHz
CPU maximum speed single core	3.5GHz
L2 cache-size/speed	8MB
Chipset	Intel C206 Chipset
Front-side bus speed	NA
PCI bus size/speed	1 PCIe x16 full, 3 miniPCIe
Motherboard vendor (as delivered)	Information not available
Motherboard model	Custom
Memory type/speed	DDR3/1600 ECC and nECC
Memory, as tested and max	16GB/32GB DDR3-1600 ECC RAM
Memory sockets, total/free	4/0
Supports ECC memory?	Yes
System BIOS, date	v1.02 on unit tested.
Power supply vendor	Delta
Power supply capacity	400W 90% Efficient, Custom PSU (Wide Ranging, Active PFC)
Hard drive vendor	Intel
Hard drive type	Solid State Drive
Hard drive size	300 GB
<b>Optical Drive vendor</b>	Sony
<b>Drive speed</b>	<b>Maximum Data Transfer Rates</b> <b>CD ROM Read</b> CD-ROM Up to 40X CD-R Up to 40X CD-RW Up to 40X  <b>DVD ROM Read</b> DVD-RAM Up to 5X

	<p>DVD+RW Up to 10X  DVD-RW Up to 10X  DVD+R DL Up to 8X  DVD-R DL Up to 8X  DVD-ROM Up to 16X  DVD-ROM DL Up to 8X  DVD+R Up to 12X  DVD-R Up to 12X</p> <p><b>Blu-ray</b>  BD-ROM Up to 6X  BD-ROM DL Up to 4.8X  BD-R Up to 6X  BD-R DL Up to 4.8X  BD-R Up to 6X  BD-RE SL/DL Up to 4.8X</p>
Other drive	Slot-load Blu-ray Writer SATA Optical Drive
Sound card	SRS Premium Sound. IDT 92HD91 codec. Speakers: Minebea/Custom-for-Z1, 2 speakers
Pointing device	HP Wireless Keyboard/Mouse
Graphics bus? (AGP, PCI-Express)	PCI Express
Expansion slots provided (PCI-Express/PCI/PCI-ISA/ISA)	4 slots: One PCIe x16 MXM slot (Occupied in shipped configuration) Three mini PCIe x1 slots (two free)
Expansion slots filled (PCI-Express/PCI/PCI-ISA/ISA)	1 PCIe x16 filled with Graphics. 1 miniPCIe filled with Wireless LAN + BlueTooth
Drive bays accessible (5.25"/3.5"/2.5")	Total drive bays = three. One bay for optical, two bays for storage. None free in configuration shipped.
Drive bays internal (5.25"/3.5"/2.5")	Combo: 1x 3.5" or 2x 2.5"
USB Ports (2.x/3.x)/Firewire	Side: 2 USB 3.0, 1 IEEE 1394a, Mic, Headphone, 4-in-1 Media Card Reader Rear: 4 USB 2.0, RJ-45 Gb-LAN, Line-in, Line-out, Display Port In/Out, SPDIF, Subwoofer Internal: 5 USB 2.0
Serial/parallel	NA
MIDI/game	NA
External SCSI	NA
Network card/modem	IEEE 802.11 a/b/g/n dual band 2.4GHz and 5.0 GHz.
Graphics card bus (AGP/PCI)	PCIe x16 MXM
Graphics card model	Configured with NVIDIA Quadro 4000M
Graphics card chipset	NVIDIA
Graphics card onboard memory	2GB GDDR5
Graphic card Windows driver version	NVIDIA 276.28
Graphics card 3D resolution, maximum	2560x1600
Multi-monitor support/number of monitors	Yes/one additional
Colors/refresh rate at maximum 3D resolution	10-bit color, 60Hz at 2560x1600
Special AutoCAD driver/version	No "special" AutoCAD driver. NVIDIA reports that the 276.42 driver version is the latest

	AutoCAD <u>certified</u> driver
<b>Warranty Coverage</b>	
..Labor/parts/on-site (months)	3/3 (parts/labor) standard. Also includes 3 years on-site service. 24/7/365
24-hour replacement parts?	Yes
24-hour telephone support?	Yes
Return policy/restocking fee	No
Is product certified for use with CAD-related software applications? Yes/No	Yes
If yes, please include a URL indicating which vendors/applications, or list the information and indicate "Contact company for more information."	<p>Adobe Premiere Pro, Encore, Phtoshop, After Effects CS5.5</p> <p>AnsysANSYS, Workbench 12</p> <p>Autodesk 3D Studio Max</p> <p>Autodesk Alias Automotive 2011/2012/2013</p> <p>Autodesk Alias Automotive 2011/2012/2013</p> <p>Autodesk Alias Design 2011/2012/2013</p> <p>Autodesk Alias Design 2011/2012/2013</p> <p>Autodesk Alias Surface 2011/2012/2013</p> <p>Autodesk Alias Surface 2011/2012/2013</p> <p>Autodesk AutoCAD 2011/2012/2013</p> <p>Autodesk AutoCAD Architectural</p> <p>Autodesk AutoCAD Civil</p> <p>Autodesk AutoCAD Civil 3D</p> <p>Autodesk AutoCAD Electrical</p> <p>Autodesk AutoCAD Land Desktop</p> <p>Autodesk AutoCAD Map 3D 2011/2012/2013</p> <p>Autodesk AutoCAD Map3D 2011/2012/2013</p> <p>Autodesk AutoCAD Mechanical</p> <p>Autodesk AutoCAD MEP 3 others"</p> <p>Autodesk Inventor 2011/2012/2013</p> <p>Autodesk Inventor 2011/2012/2013</p> <p>Autodesk Maya</p> <p>Autodesk Moldflow 2011/2012/2013</p> <p>Autodesk Revit Architecture, MEP, Structure 2011/2012/2013</p> <p>Autodesk/SoftImage XSI</p> <p>Aveva Marine 12.0 SP6 and /12.1 SP2</p> <p>Aveva PDMS 12.0 SP6 and/ 12.1 SP2</p> <p>Aveva Review 12.1</p> <p>Avid Media Composer</p> <p>Bentley MicroStation, InRoads, Navigator V8i</p> <p>Bentley MicroStation, InRoads, Navigator V8i</p> <p>CATIA+ 64-bit</p> <p>Creo 1.0/2.0</p> <p>Creo Elements Pro 5.0 and Direct 18</p> <p>Digidesign</p> <p>Dynamic Graphics (RHEL5, Win*)</p> <p>ESRI ArcGIS 10, /10.1,/9.3</p> <p>ffA SVI/SEA Pro</p>

	Headwave HSMWorks 2010/2011 HSMWorks 2010/2011 ICEM Surf Landmark Decision Space Desktop (RHEL5, W7x64) LMKR Geographix (Win*) MEP, Structure, 2011/2012/2013" MSC.Patran, SimXPert NX I-DEAS 5, /6 Paradigm EPOS v4 (RHEL5) Paradigm GOCAD/SKUA (RHEL5/ WinX64*) Pro Tools LE Roxar RMS (RHEL5, Win*) Schlumberger GeoFrame Schlumberger Petrel -2008 (WinXP*) Schlumberger Petrel -2009/2010 (W7x64, Vista64*) Schlumberger Petrel -2011 (W7x64, Vista64*) Seismic Micro-Technology Kingdom (Win*) SensAble FreeForm 11 Siemens NX6, NX7.5 Siemens TCVIS 2007, /8.0, /8.0.1 Siemens Tecnomatix 9.1.2 Solid Edge ST3 or /ST4 SolidWorks 2010/2011/2012 TerraSpark Insight Earth Transform TerraSuite
<b>BENCHMARK RESULTS</b>	
<b>C2012 TEST RESULTS (1280x1024; true-color)</b>	
<b>Total Index</b>	470
<b>3D Index</b>	909
<b>2D Index</b>	401
<b>Disk Index</b>	264
<b>CPU Index</b>	305
<b>SPEC Viewperf 11 (1280x1024; true-color)</b>	
<b>catia-03</b>	39.28
<b>ensight-04</b>	26.07
<b>lightwave-01</b>	60.78
<b>maya-03</b>	76.14
<b>proe-05</b>	11.57
<b>sw-02</b>	47.16
<b>tcvis-02</b>	30.72
<b>snx-01</b>	27.76

<b>C2011 TEST RESULTS (1280x1024; true-color)</b>	
<b>Total Index</b>	1,214
<b>3D Index</b>	3,914
<b>2D Index</b>	385
<b>Disk Index</b>	248
<b>CPU Index</b>	308