

Family data sheet

HP recommends Windows.

# HP Workstations

Quick reference guide



A family of overachievers

March 2014

Meet Our HP Workstation Family—  
Compare Features



	HP Z1 G2	HP Z230 SFF	HP Z230 Tower
<b>Overview</b>	Power without the tower.	Better package. Bigger punch.	More performance. Less space.
<b>Operating systems</b>	Windows 8.1 Pro 64-bit**** Windows 8.1 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit**** Windows 7 Professional 32-bit and other editions available* HP Linux Installer Kit SUSE Linux Enterprise Desktop 11 (90 day support) Red Hat Enterprise Linux Desktop/Workstation (1 year support; no preinstalled OS)	Windows 8.1 Pro 64-bit**** Windows 8.1 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit**** Windows 8 Pro 64-bit**** Windows 8 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit** Windows 7 Professional 32-bit and other editions available* HP Linux Installer Kit SUSE Linux Enterprise Desktop 11 (90 day support) Red Hat Enterprise Linux Desktop/Workstation (1 year support; no preinstalled OS)	Windows 8.1 Pro 64-bit**** Windows 8.1 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit**** Windows 8 Pro 64-bit**** Windows 8 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit** Windows 7 Professional 32-bit and other editions available* HP Linux Installer Kit SUSE Linux Enterprise Desktop 11 (90 day support) Red Hat Enterprise Linux Desktop/Workstation (1 year support; no preinstalled OS)
<b>Processor/chipset</b>	Intel® Xeon® Processor E3-1200 v3 series <sup>1</sup> Intel® Core™ i3/i5 processor family <sup>1</sup> Intel® C226 Chipset	Intel® Xeon® Processor E3-1200 v3 series <sup>1</sup> Intel® Core™ i3/i5/i7 processor family <sup>1</sup> Intel® Pentium® G3220 processor <sup>1</sup> Intel® C226 Chipset	Intel® Xeon® Processor E3-1200 v3 series <sup>1</sup> Intel® Core™ i3/i5/i7 processor family <sup>1</sup> Intel® Pentium® G3220 processor <sup>1</sup> Intel® C226 Chipset
<b>Slots available/maximum memory/number of memory channels<sup>3</sup></b>	4 DIMM slots, up to 32 GB or 16 GB non-ECC unbuffered DDR3 1866 MHz DIMMS 2 channels per CPU	4 DIMM slots, up to 32 GB ECC/non-ECC, DDR3 1600 MHz (ECC/non-ECC choice and actual memory speed dependent on processor capability)	4 DIMM slots, up to 32 GB ECC/non-ECC, DDR3 1600 MHz (ECC/non-ECC choice and actual memory speed dependent on processor capability)
<b>Expansion slots</b>	1 MXM 2 mini-PCIe/mSATA (full-length) Optional Thunderbolt™ 2 <sup>15</sup> module using the optical drive bay	1 PCIe Gen3 x16 1 PCIe Gen2 x4 slot/x16 connector 1 PCIe Gen2 x1 slot/x4 connector 1 PCIe Gen2 x1 slot. All slots are Low Profile. Optional Thunderbolt™ 2 via PCIe card	1 PCIe Gen3 x16 1 PCIe Gen2 x4 slot/x16 connector 1 PCIe Gen2 x1 slot/x4 connector 1 PCIe Gen2 x1 slot 1 PCI 32-bit Optional Thunderbolt™ 2 via PCIe card
<b>Graphics</b>	Intel HD Graphics 4400; Intel HD Graphics 4600; Intel HD Graphics P4600 (Xeon E3-12x5v3) NVIDIA Quadro K610M NVIDIA Quadro K2100M NVIDIA Quadro K3100M NVIDIA Quadro K4100M	Intel® HD Graphics available on select processors as above NVIDIA NVS 310 NVIDIA NVS 315 NVIDIA NVS 510 AMD FirePro™ V3900 NVIDIA Quadro 410 NVIDIA Quadro K600	Intel® HD Graphics available on select processors as above NVIDIA NVS 310 NVIDIA NVS 315 NVIDIA NVS 510 AMD FirePro™ V3900 NVIDIA Quadro 410 NVIDIA Quadro K600 NVIDIA Quadro K2000 AMD FirePro™ W7000 (AMO only) <sup>†</sup> NVIDIA Quadro K4000
<b>Maximum supported displays</b>	One external display via display port <sup>15</sup>	6 displays <sup>5</sup>	6 displays <sup>5</sup>
<b>Controllers and HDDs<sup>6,7</sup></b>	Integrated Serial ATA controller; 500 GB–1 TB SATA (10000 rpm), 500 GB–3 TB SATA (7200 rpm), 120 GB–512 GB SATA SSD, 128–256 GB mSATA SSD	Integrated SATA Controller, RAID 0,1 supported: 5 ports, 6 Gb/s Up to (2) 3.5-inch 7200 rpm SATA drives: 500 GB, 1, 2 or 3 TB (6 TB max) Up to (2) 2.5-inch 10K rpm SATA drives: 250, 500 GB, 1 TB (2 TB max) Up to (2) 2.5-inch SATA SDD drives: 128, 256 GB (0.5 TB max) Up to (1) 2.5-inch SATA self-encrypting solid state boot drive (SED SSD): 256 GB, 256 GB max Up to (1) 2.5-inch SATA self-encrypting 7200 rpm boot drive (SED): 500 GB, 500 GB max Optional (1) 64 GB SSD Disk Cache Module can be used in conjunction with up to (2) SATA HDDs in RAID 0/RAID 1 using Intel® Smart Response Technology.	Integrated SATA Controller, RAID 0,1 supported: 5 ports, 6 Gb/s Up to (3) 3.5-inch 7200 rpm SATA drives: 500 GB, 1, 2 or 3 TB (9 TB max) Up to (3) 2.5-inch 10K rpm SATA drives: 250, 500 GB, 1 TB (3 TB max) Up to (3) 2.5-inch SATA SDD drives: 128, 256 GB (0.75 TB max) Up to (1) 2.5-inch SATA self-encrypting solid state boot drive (SED SSD): 256 GB, 256 GB max Up to (1) 2.5-inch SATA self-encrypting 7200 rpm boot drive (SED): 500 GB, 500 GB max Optional (1) 64 GB SSD Disk Cache Module can be used in conjunction with up to (2) SATA HDDs in RAID 0/RAID 1 using Intel® Smart Response Technology.
<b>Optical drives<sup>8,9,10</sup></b>	DVD-ROM Slim-Tray Drive; DVD RW Super-Multi Slim-Tray Drive; SATA Blu-ray Writer Slim-Tray	DVD-ROM DVD+/-RW DL Super Multi HP Blu-ray Writer HP 14-in-1 Media Card Reader	DVD-ROM DVD+/-RW DL Super Multi HP Blu-ray Writer HP 14-in-1 Media Card Reader
<b>Communications<sup>11</sup></b>	Intel I217LM Network Connection (Intel® vPro™ with Intel® AMT 9.0) Integrated Intel dual-band AC 7260 802.11ac Wireless LAN & Bluetooth 4 Combo Card	Intel I217LM Network Connection (Intel® vPro™ with Intel® AMT 9.0) Optional Intel® GbE NIC	Intel I217LM Network Connection (Intel® vPro™ with Intel® AMT 9.0) Optional Intel® GbE NIC



**HP Z420**



**HP Z620**



**HP Z820**

	<b>HP Z420</b>	<b>HP Z620</b>	<b>HP Z820</b>
<b>Overview</b>	Performance you want. Value you need.	Versatility redefined, still compact.	Ultimate performance. Unmatched design.
<b>Operating systems</b>	Windows 8.1 Pro 64-bit**** Windows 8.1 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit**** Windows 8 Pro 64-bit**** Windows 8 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit** Windows 7 Professional 32-bit and other editions available* HP Linux Installer Kit SUSE Linux Enterprise Desktop 11 (90 day support) Red Hat Enterprise Linux Desktop/Workstation (1 year support; no preinstalled OS)	Windows 8.1 Pro 64-bit**** Windows 8.1 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit**** Windows 8 Pro 64-bit**** Windows 8 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit** Windows 7 Professional 32-bit and other editions available* HP Linux Installer Kit Red Hat Enterprise Linux Desktop/Workstation (1 year support; no preinstalled OS)	Windows 8.1 Pro 64-bit**** Windows 8.1 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit**** Windows 8 Pro 64-bit**** Windows 8 Pro 64-bit Downgrade to Windows 7 Pro 32-bit or 64-bit** Windows 7 Professional 32-bit and other editions available* HP Linux Installer Kit Red Hat Enterprise Linux Desktop/Workstation (1 year support; no preinstalled OS)
<b>Processor/chipset</b>	Intel® Xeon® Processor E5-1600 v2 Series¹ Intel® Xeon® Processor E5-2600 v2 Series¹,² Intel® C602 Chipset	Intel® Xeon® Processor E5-1600 v2 Series¹ Intel® Xeon® Processor E5-2600 v2 Series¹ Intel® C602 Chipset	Intel® Xeon® Processor E5-2600 v2 Series¹ Intel® QuickPath Technology Intel® C602 Chipset
<b>Slots available/maximum memory/number of memory channels³</b>	8 DIMM slots; Up to 64 GB (8x8GB) ECC unbuffered DDR3 1866 MHz (600W PSU chassis); Up to 32 GB (8x4 GB) ECC unbuffered DDR3 1866 MHz (400W PSU chassis); 4 channels per CPU	Up to 12 DIMM slots with 2 CPUs, up to 192 GB, 8-channel ECC DDR3 1866 MHz 4 channels per CPU	16 DIMM slots, up to 512 GB, 8-channel ECC DDR3, up to 1866 MHz 4 channels per CPU
<b>Expansion slots</b>	2 PCI Express Gen3 x16 mechanical/electrical 1 PCI Express Gen3 x8 mechanical/electrical 1 PCI Express Gen2 x8 mechanical/x4 electrical 1 PCI Express Gen2 x4 mechanical/x1 electrical 1 Legacy PCI Optional Thunderbolt™ 2 via PCIe card	2 PCI Express Gen3 x16 1 PCI Express Gen3 x8 1 PCI Express Gen2 x8 mechanical/x4 electrical 1 PCI Express Gen2 x4 mechanical/x1 electrical 1 Legacy PCI Optional Thunderbolt™ 2 via PCIe card	2 PCI Express Gen3 x16 1 PCI Express Gen3 x16 (Available only with 2nd CPU) 1 PCI Express Gen3 x16 mechanical/x8 electrical (Available only with 2nd CPU) 1 PCI Express Gen3 x8 mechanical/x4 electrical 1 PCI Express Gen2 x8 mechanical/x4 electrical 1 Legacy PCI Optional Thunderbolt™ 2 via PCIe card
<b>Graphics</b>	NVIDIA NVS 300 NVIDIA NVS 310 NVIDIA NVS 510 NVIDIA Quadro 410 NVIDIA Quadro K600 AMD FirePro™ V3900 NVIDIA Quadro K2000 NVIDIA Quadro K4000†† AMD FirePro™ W7000†† NVIDIA Quadro K5000†† NVIDIA Quadro K6000 (AMO only)†† NVIDIA Tesla K20c†† NVIDIA Tesla K40††	NVIDIA NVS 310 NVIDIA NVS 315 NVIDIA NVS 510 NVIDIA Quadro 410 NVIDIA Quadro K600 AMD FirePro™ V3900 NVIDIA Quadro K2000 NVIDIA Quadro K4000 AMD FirePro™ W7000 NVIDIA Quadro K5000 NVIDIA Quadro K6000 NVIDIA Tesla K20c NVIDIA Tesla K40	NVIDIA NVS 300 NVIDIA NVS 310 NVIDIA NVS 315 NVIDIA Quadro NVS 450 NVIDIA NVS 510 NVIDIA Quadro 410 NVIDIA Quadro K600 NVIDIA Quadro K2000 NVIDIA Quadro K4000 AMD FirePro™ W7000 NVIDIA Quadro K5000 NVIDIA Quadro 6000 NVIDIA Quadro K6000 NVIDIA Tesla C2075⁴ NVIDIA Tesla K20c NVIDIA Tesla K40
<b>Maximum supported displays</b>	8 displays⁵	8 displays⁵	8 displays⁵
<b>Controllers and HDDs⁶,⁷</b>	Integrated 6-channel SATA controller: 2 ports 6 Gb/s + 4 ports 3 Gb/s, RAID 0, 1, 5, 10 capable Optional SAS controller: LSI 9212-4i 4-port SAS/SATA 6 Gb/s, RAID 0, 1, 10 capable Optional SAS controller: LSI 9217 -4i4e 8-port SAS/SATA 6 Gb/s, RAID 0, 1, 10 capable Up to (4) 3.5-inch 7200 rpm SATA drives: 250, 500 GB, 1, 2, 3 TB, 12 TB max Up to (4) 2.5-inch 10K rpm SATA drives: 250, 500 GB, 1 TB, 4 TB max Up to (4) 2.5-inch 10K rpm SAS drives: 300, 600, 900 GB, 1.2 TB, 4.8 TB max Up to (4) 3.5-inch 15K rpm SAS drives: 300, 450, 600 GB, 2.4 TB max Up to (4) 2.5-inch SATA solid state drives: 128, 240, 256, 480, 512 GB, 2.0 TB max Note: Fourth 3.5-inch drive occupies one external 5.25-inch bay. Fourth 2.5-inch drive is installed into top optical bay handle.	Integrated 6-channel SATA controller: 2 ports 6 Gb/s + 4 ports 3 Gb/s, RAID 0, 1, 5, 10 capable Optional SAS controllers: LSI 9212-4i 4-port SAS; LSI 9717-4i4e 8-port SAS; & LSI 9270-8i SAS; all with 6 Gb/s RAID 0, 1, 10 capable Fusion ioFX 410GB PCIe Accelerator Up to (4) 3.5-inch 7200 rpm SATA drives: 500 GB, 1, 2, 3 TB, 12 TB max Up to (4) 2.5-inch 10K rpm SATA drives: 250, 500 GB, 1 TB, 4 TB max Up to (4) 2.5-inch 10K rpm SAS drives: 300, 600, 900 GB, 1.2 TB, 4.8 TB max Up to (4) 3.5-inch 15K rpm SAS drives: 300, 450, 600 GB, 2.4 TB max Up to (4) 2.5-inch SATA solid state drives: 128, 240, 256, 480, 512 GB, 2 TB max Up to (1) 2.5-inch SATA self-encrypting solid state boot drive (SED SSD): 256 GB, 256 GB max Up to (1) 2.5-inch SATA self-encrypting hard drive (SED HDD): 500 GB, 500 GB max Note: Fourth drive occupies one external 5.25-inch bay	Integrated 2-channel SATA 6 Gb/s controller, RAID 0, 1 capable Integrated 4-channel SATA 3 Gb/s controller, RAID 0, 1, 5, 10 capable Integrated 8-channel SAS 6Gb/s controller, RAID 0, 1, 10 capable Optional LSI 9260-8i 8-port 6Gb/s SAS HW RAID 0, 1, 5, 10 capable Up to (5) 3.5-inch 7200 rpm SATA drives: 250, 500 GB, 1, 2, 3 TB, 15 TB max Up to (5) 2.5-inch 10K rpm SATA drives: 300 GB SFF, 1.5 TB max Up to (6) 2.5-inch 10K rpm SATA drives: 250, 500, 1000 GB SFF, 6 TB max Up to (6) 2.5-inch 10K rpm SAS drives: 300, 600, 900 GB, 1.2 TB, 7.2 TB max Up to (5) 3.5-inch 15K rpm SAS drives: 300, 450, 600 GB, 3 TB max Up to (6) 2.5-inch SATA solid state drives: 120, 128, 180, 240, 256, 480, 512 GB, 3 TB max Up to (1) 2.5-inch SATA solid state SED drives: 256 GB, 256 GB max Up to (1) 3.5-inch SATA SED hard drive: 500 GB, 500 GB max
<b>Optical drives⁸,⁹,¹⁰</b>	DVD-ROM DVD+/-RW DL Super-Multi Blu-ray Writer 14-in-1 Media Card Reader	DVD-ROM DVD+/-RW Blu-ray Writer 14-in-1 Media Card Reader	DVD-ROM DVD+/-RW Super-Multi and Slot-Load Blu-ray Writer 14-in-1 Media Card Reader
<b>Communications¹¹</b>	Integrated Intel GbE LAN Optional Intel CT x1 PCIe NIC Optional Intel Ethernet I210-T1 PCIe NIC Optional Broadcom NIC Optional HP 361T PCIe Dual Port Gigabit NIC Optional HP X520 10GbE Dual Port Adapter Optional HP 10GbE SFP+ SR Transceiver Infineon TPM 1.2 Controller	Dual integrated Intel GbE LAN Infineon TPM 1.2 Controller Optional Broadcom GbE NIC Optional Intel GbE NIC Optional HP X520 10GbE Dual Port NIC Optional Intel Ethernet I210-T1 PCIe NIC	Dual integrated Intel GbE LAN Infineon TPM 1.2 Controller Optional Broadcom NIC Optional Intel NIC



**HP ZBook 14**

**HP ZBook 15**

**HP ZBook 17**

Overview	Exceptional innovation.	Innovative, sleek design.	Power to Perform.
<b>Operating systems</b>	Windows 7 Professional and other editions available* Windows 8 Pro and other editions available** Windows 8.1 Pro 64-bit*** SUSE Linux Enterprise Desktop 11 FreeDOS	Windows 7 Professional and other editions available* Windows 8 Pro and other editions available** SUSE Linux Enterprise Desktop 11 FreeDOS	Windows 7 Professional and other editions available* Windows 8 Pro and other editions available** SUSE Linux Enterprise Desktop 11 FreeDOS
<b>Processor/chipset/system bus</b>	Intel® Core™ i5 or i7 Mobile Processor Family with Intel® vPro Technology <sup>1,12,13</sup> Chipset is integrated with processor	Intel® Core™ i5 or i7 Mobile Processor Family with Intel® vPro Technology <sup>1,12,13,14</sup> Mobile Intel® QM87 chipset	Intel® Core™ i5 or i7 Mobile Processor Family with Intel® vPro Technology <sup>1,12,13,14</sup> Mobile Intel® QM87 chipset
<b>Maximum memory/slots available<sup>4</sup></b>	DDR3L SDRAM, 1600 MHz, 2 SODIMMs, up to 16 GB	DDR3L SDRAM, 1600 MHz, 4 SODIMMs, up to 32 GB Two SODIMM slots (dual-core processor) or four SODIMM slots (quad-core processor) supporting dual-channel memory.	DDR3L SDRAM, 1600 MHz, 2 or 4 SODIMMs, up to 32 GB Two SODIMM slots (dual-core processor) or four SODIMM slots (quad-core processor) supporting dual-channel memory.
<b>Expansion slots</b>	1 Secure Digital; 1 Smart Card Reader	1 ExpressCard/54; 1 Secure Digital; 1 Smart Card Reader; Thunderbolt™ 2 integrated	1 ExpressCard/54; 1 Secure Digital; 1 Smart Card Reader; Thunderbolt™ 2 integrated
<b>Graphics</b>	Intel® HD Graphics 4400 AMD FirePro™ M4100 AMD Dynamic Switchable Graphics supported	Intel HD Graphics 4600 NVIDIA Quadro K610M NVIDIA Quadro K1100M NVIDIA Quadro K2100M NVIDIA Optimus Technology supported	NVIDIA Quadro K610M NVIDIA Quadro K3100M NVIDIA Quadro K4100M NVIDIA Quadro K5100M
<b>Displays</b>	14" diagonal LED-backlit HD SVA eDP anti-glare (1366 x 768) 14" diagonal LED-backlit HD+ SVA eDP anti-glare (1600 x 900) 14" diagonal LED-backlit HD+ SVA eDP anti-glare touch (1600 x 900) 14" diagonal LED-backlit FHD UWVA eDP anti-glare + PSR (1920 x 1080)	15.6" diagonal LED-backlit FHD SVA eDP anti-glare (1920 x 1080) 15.6" diagonal LED-backlit FHD UWVA eDP anti-glare + PSR (1920 x 1080) 15.6" diagonal RGB LED-backlit FHD DreamColor UWVA eDP anti-glare (1920 x 1080)	17.3" diagonal LED-backlit HD+ SVA anti-glare (1600 x 900) 17.3" diagonal LED-backlit FHD WVA anti-glare (1920 x 1080) 17.3" diagonal LED-backlit FHD DreamColor UWVA anti-glare (1920 x 1080)
<b>Controllers and HDDs<sup>6,7</sup></b>	SATA (7200 rpm), 320 GB, 750 GB SATA (5400 rpm), 1 TB, SATA SED, 500 GB SATA FIPS 140-2 SED (5400 rpm), 500 GB SATA SSD, 180GB, 512 GB SATA SE SSD, 256 GB M.2 SSD, 120 GB	SATA (7200 rpm), 320 GB, 750 GB SATA (5400 rpm), 1 TB SATA SED, 500 GB SATA FIPS 140-2 SED (5400 rpm), 500 GB SATA SSD, 128GB, 500 GB SATA SE SSD, 256 GB mSATA SSD, 128 GB	SATA (7200 rpm), 320 GB, 750 GB SATA (5400 rpm), 1 TB SATA SED, 500 GB SATA FIPS 140-2 SED (5400 rpm), 500 GB SATA SSD, 128GB, 500 GB SATA SE SSD, 256 GB mSATA SSD, 128 GB
<b>Optical drives<sup>8,9,10</sup></b>	External optical drives are supported	Blu-ray R/RE DVD+/-RW SuperMulti DL Blu-ray ROM DVD+/-RW SuperMulti DL DVD+/-RW SuperMulti DL DVD-ROM	Blu-ray R/RE DVD+/-RW SuperMulti DL Blu-ray ROM DVD+/-RW SuperMulti DL DVD+/-RW SuperMulti DL DVD-ROM
<b>Communications<sup>11</sup></b>	Integrated Intel I218-LM Gigabit Network Connection (10/100/1000)	Integrated Intel I217-LM Gigabit Network Connection (10/100/1000)	Integrated Intel I217-LM Gigabit Network Connection (10/100/1000)

Select screen images courtesy of Autodesk and Cannon Design

- \* This system may require upgraded and/or separately purchased hardware to take full advantage of Windows 7 functionality. Not all features are available in all editions of Windows 7. See [microsoft.com/windows/windows-7/](http://microsoft.com/windows/windows-7/) for details.
- \*\* This system is preinstalled with Windows 7 Professional software and also comes with a license and media for Windows 8 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version.
- \*\*\* This system is preinstalled with Windows 7 Professional software and also comes with a license and media for Windows 8.1 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version.

† After-Market Option

‡ Supported only in the Z420 600W power supply chassis.

1. Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
2. Limited options on the Intel® Xeon® Processor E5-2600\* Series; Please see HP Z420 Datasheet for details.
3. Each processor supports up to 2 channels (HP Z230 Tower/HP Z230 SFF) or 4 channels (HP Z420/HP Z620/HP Z820) of DDR3 memory. To realize full performance at least 1 DIMM must be inserted into each channel. To get full 8 channel support, 2 processors MUST be installed. Maximum memory capacities assume Windows 64-bit operating systems or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.
4. NVIDIA Tesla C2075 on the HP Z820 requires the 1125W power supply.
5. Support for external displays as a standard feature through integrated processor-based graphics is dependent upon the particular PC platform/form factor; the actual number of displays supported will vary. An optional discrete graphics solution will be required for the support of additional displays. Additional cables required. DisplayPort with multi-stream through integrated graphics is planned to be available in fall 2013 as an integrated feature and as a web update in late summer 2013.
6. SATA hardware RAID is not supported on Linux systems. The Linux kernel, with built-in software RAID, provides excellent functionality and performance. It is a good alternative to hardware-based RAID. Please visit [h20000.www2.hp.com/bc/docs/support/SupportManual/c00060684/c00060684.pdf](http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00060684/c00060684.pdf) for RAID capabilities with Linux. HP Z200 does not support RAID 10 Because of drive bay limitation.
7. For hard drives, 1 GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. UP to 36 GB of hard drive (or system disk) is reserved for system recovery software for Windows 7.
8. Double Layer discs can store more data than single layer discs. However, double-layer discs burned with this drive may not be compatible with many existing single-layer DVD drives and players.
9. As Blu-Ray contains new technologies, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawless playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require a DVI or HDMI digital connection and your display may require HDCP support. HD-DVD movies cannot be played on this workstation.
10. Actual speeds may vary. Does not permit copying of commercially available DVD movies or other copyright protected materials. Intended for creation and storage of your original material and other lawful uses. Note that DVD-RAM cannot read or write to 2.6 GB Single Sided/5.2 GB Double Sided – Version 1.0 media.
11. The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.
12. Some functionality of this technology, such as Intel® Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Microsoft Windows required.
13. This workstation does not support the Intel Core 2 Extreme processor over-clocking feature. See [intel.com/technology/turboboost](http://intel.com/technology/turboboost) for more information.
14. NVIDIA Optimus is enabled by default. If you choose to disable this functionality, Intel® integrated graphics will not be used.
15. The Z1 G2 can support up to four total displays with the use of Thunderbolt 2 and NVIDIA Professional graphics. Customers can use the built-in screen, a monitor attached to the rear DisplayPort and up to two additional Thunderbolt supported monitors or not use the built-in screen with up to four additional monitors attached to a Thunderbolt port. The Z1 G2 can support up to three total displays with the use of Thunderbolt 2 and Intel HD graphics. Customers can use the built-in screen, a monitor attached to the rear DisplayPort and a Thunderbolt supported monitor or not use the built-in screen with up to three additional monitors attached to a Thunderbolt port. The Z1 G2 base model does not include Thunderbolt, but customers may configure machines when ordering to include two Thunderbolt 2 ports in place of the optical drive.
16. Thunderbolt™ 2 is available via an optional add-in card. Thunderbolt is new technology. Thunderbolt cable and Thunderbolt device (sold separately) must be compatible with Windows. To determine whether your device is Thunderbolt Certified for Windows, see [thunderbolttechnology.net/products](http://thunderbolttechnology.net/products).

**Learn more—[hp.com/zworkstations](http://hp.com/zworkstations)**

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