Family data sheet

HP Z Workstations

Quick reference guide

A family of overachievers

August 2016

Meet Our HP Workstation Family—Compare Features

All-in-One

	HP Z1 G3
Overview	Reimagining our most innovative workstation
Operating systems	Windows 10 Pro 64[12] Windows 7 Professional 64-bit (available through downgrade rights from Windows 10 Pro 64-bit)[13] HP Linux® ready
Processor/chipset	Intel® Xeon® Processor E3-1200 v5 series[2,4] 5th Generation Intel® Core™ i3, i5, and i7 Processors[2] Intel® C23 Chipset
Slots available/maximum memory/number of memory channels[3]	Up to 64 GB ECC DDR4 2133-SDRAM or 64 GB non-ECC unbuffered DDR4-2133 SDRAM (Transfer rates up to 2133 MT/s); 4 SODIMM slots
Expansion slots[6]	1 MXM (dedicated for graphics) 3 M.2 (2 M.2 slots support module types 2242, 2260, 2280-M H4.2; 1 M.2 slot supports module type 3030-E H4.2 for WLAN)
Graphics	Intel® HD Graphics 530[8] Intel® HD Graphics P530[8] Note: If a discrete graphics card is installed Intel® integrated graphics is disabled. All discrete graphics cards are PCIe. NVIDIA® Quadro® M1000M NVIDIA® Quadro® M2000M
Controllers and HDDs[14,15]	Integrated RAID 0,1 on motherboard for SATA drives 500 GB up to 1 TB SATA 7200 rpm 256 GB up to 1 TB SATA SSDUp to (1) mSATA SSD drives: 256 GB 256 GB SATA SED SSD 256 GB up to 1 TB HP Z Turbo Drive G2 (NVMe PCIe SSD)
Optical drives[16,17]	Ultra-slim external DVD-RW drive (optional)[25] DVD+/-RW DL Super Multi Slim tray load HP Blu-ray Writer Slim tray load 1 SD 4.0 Media Card Reader
Remote Technology	HP Remote Graphics Software (RGS)
Communications	Integrated Intel I219LM PCIe Gigabit controller Intel® 8260 802.11ac wireless with Bluetooth® 4.2 (optional) [22]

Desktop Workstations

	HP Z240 SFF	HP Z240 Tower
Overview	Power, price and size.	Powered to manage your challenges.
Operating systems	Windows® 10 Pro 64[12] Windows 7 Professional 64-bit (available through downgrade rights from Windows 10 Pro 64) Windows 7 Professional 64-bit HP Linux®-ready Red Hat® Enterprise Linux® Workstation (1 year paper license available; Preinstall not available)	Windows® 10 Pro 64[12] Windows 7 Professional 64-bit (available through downgrade rights from Windows 10 Pro 64) Windows 7 Professional 64-bit HP Linux®-ready Red Hat® Enterprise Linux® Workstation (1 year paper license available; Preinstall not available)
Processor/chipset[24]	Intel® Xeon® processor E3-1200 v5 series Intel® Core™ i5-6500[2] Intel® Core™ i5-6600[2] Intel® Core™ i7-6700[2] Intel® Pentium® G4400 Intel® C236 chipset	Intel® Xeon® processor E3-1200 v5 series Intel® Core™ i7-6700K processor Intel® Core™ i5-6500[2] Intel® Core™ i5-6600[2] Intel® Core™ i7-6700[2] Intel® Pentium® G4400 Intel® C236 chipset
Slots available/maximum memory/number of memory channels[3]	4 DIMM slots, supporting up to 64 GB ECC/non-ECC, DDR4-2133 (Transfer rates up to 2133 MT/s)	4 DIMM slots, supporting up to 64 GB ECC/non-ECC, DDR4-2133 (Transfer rates up to 2133 MT/s)
Expansion slots[6]	1 PCIe Gen3 x16 slot 1 PCIe Gen3 x1 slot /x1 connector 1 PCIe Gen3 x1 slot /x1 connector 1 PCIe Gen3 x4 slot /x16 connector 1 M.2 slot PCIe Gen3 x4	1 PCIe Gen3 x16 slot 1 PCIe Gen3 x4 slot /x16 connector 1 PCIe Gen3 x4 slot/x4 connector 1 PCIe Gen3 x1 slot 1 PCI slot 32-bit (optional) 1 M.2 slot PCIe Gen3 x4
Graphics	Intel® HD Graphics 530[8] Intel® HD Graphics P530 NVIDIA® NVS™ 310 1 GB[9] NVIDIA® NVS™ 315 1 GB NVIDIA® NVS™ 510 2 GB[10] AMD FirePro™ W4300 4 GB AMD FirePro™ W2100 2 GB NVIDIA® Quadro® K420 2 GB NVIDIA® Quadro® K620 2 GB NVIDIA® Quadro® K1200 4 GB AMD FirePro™ W7100 8 GB NVIDIA® Quadro® M4000 8 GB	Intel® HD Graphics P530[8] Intel® HD Graphics 530[8] NVIDIA® NVS™ 310 1 GB[9] NVIDIA® NVS™ 315 1 GB NVIDIA® NVS™ 510 2 GB[10] AMD FirePro™ W5100 4 GB AMD FirePro™ W4300 4 GB AMD FirePro™ W7100 8 GB AMD FirePro™ W2100 2 GB NVIDIA® Quadro® K420 2 GB NVIDIA® Quadro® K620 2 GB NVIDIA® Quadro® K1200 4 GB NVIDIA® Quadro® K2200 4 GB NVIDIA® Quadro® M4000 8 GB[11]
Maximum supported displays[7]	Up to 6 displays	Up to 6 displays
Controllers and HDDs[14,15]	500 GB, 1/2/3 TB SATA 7200 rpm HDD 500 GB SATA SED HDD 1 TB (8 GB cache) SATA SSHD 256/512 GB, 1TB SATA SSD 256 GB SATA SED 256/512 GB, 1 TB HP Z Turbo Drive (PCIe SSD) Integrated SATA Controller, RAID 0,1 supported: 4x 6 Gb/s ports HP Thunderbolt™ 2[4] PCIe 1-port I/O Card	500 GB, 1/2/3/4 TB SATA 7200 rpm HDD 500 GB SATA SED HDD 1 TB (8 GB cache) SATA SSHD 256/512 GB, 1 TB SATA SSD 256 GB SATA 6Gb/s SED Opal 2 SSD 256/512 GB, 1 TB HP Z Turbo Drive (PCIe SSD) Integrated SATA Controller, RAID 0,1 supported: 4x 6 Gb/s ports HP Thunderbolt™ 2[4] PCIe 1-port I/O Card
Optical drives[16,17]	HP DVD-ROM Slim-Tray Drive HP Blu-ray Writer Slim-Tray Drive HP SD Media Card Reader	HP DVD-ROM Slim-Tray Drive HP Slim SuperMulti DVDRW SATA Drive HP Blu-ray Writer Slim-Tray Drive HP SD Media Card Reader
Remote Technology	HP Remote Graphics Software (RGS)	HP Remote Graphics Software (RGS)
Communications	Integrated Intel® I219LM PCIe GbE Controller[18,19,21] (Intel® vPro™ with Intel® AMT 11.0) Intel® Ethernet I210-T1 PCIve NIC[20] Intel® 8260 802.11 a/b/g/n/ac with Bluetooth® 4.2 PCIe NIC	Integrated Intel® I219LM PCIe GbE Controller[18,19,21] (Intel® vPro™ with Intel® AMT 11.0) Intel® Ethernet I210-T1 PCIe NIC[20] HP X530 10GbE Dual Port Adapter[21] HP 10GbE SFP+ SR Transceiver[21] Intel® 8260 802.11 a/b/g/n/ac with Bluetooth® 4.2 PCIe NIC

Desktop Workstations

	 HP Z440	 HP Z640	 HP Z840
Overview	Expand your power.	Flexible, powerful, ready to work.	More power to you.
Operating systems	Windows 10 Pro 64[12] Windows 10 Home 64[12] Windows 8.1 Pro 64-bit Windows 7 Professional 64-bit (available through downgrade rights from Windows 10 Pro 64) Windows 7 Professional 64-bit (National Academic) HP Installer Kit for Linux (includes drivers for 64-bit OS versions of RHEL 6.6, RHEL 7, SUSE Linux Enterprise Desktop 11, SP3, 12, Ubuntu 14.04) Ubuntu 14.04	Windows 10 Pro 64[12] Windows 10 Home 64[12] Windows 8.1 Pro 64-bit Windows 7 Professional 64-bit (available through downgrade rights from Windows 10 Pro 64) Windows 7 Professional 64-bit (available through downgrade rights from Windows 8.1 Pro 64-bit) HP Installer Kit for Linux (includes drivers for 64-bit OS versions of RHEL 6.6, RHEL 7, SUSE Linux Enterprise Desktop 11, SP3, 12, Ubuntu 14.04)	Windows 10 Pro 64[10] Windows 10 Home 64[10] Windows 8.1 Pro 64-bit Windows 7 Professional 64-bit (available through downgrade rights from Windows 10 Pro 64) Windows 7 Professional 64-bit (available through downgrade rights from Windows 8.1 Pro 64-bit) Windows 7 Professional 64-bit HP Installer Kit for Linux (includes drivers for 64-bit OS versions of RHEL 6.6, RHEL 7, SUSE Linux Enterprise Desktop 11, SP3, 12, Ubuntu 14.04)
Processor/chipset	Intel® Xeon® Processor E5-1600v3/v4 series[2] Intel® Xeon® Processor E5-2600v3/v4 series[2] Intel® C612 Chipset	Intel® Xeon® Processor E5-1600v3/v4 series[2] Intel® Xeon® Processor E5-2600v3/v4 series[2] Intel® C612 Chipset	Intel® Xeon® Processor E5-2600v3/v4 series[2] Intel® C612 Chipset
Slots available/maximum memory/number of memory channels[3]	8 DIMM slots; Up to 128 GB DDR4-2400 (Transfer rates up to 2400 MT/s) Registered ECC (w/16 GB DIMMs)	Up to 8 DIMM slots with 2 CPUs, up to 256 GB DDR4-2400 (Transfer rates up to 2400 MT/s) Registered ECC (w/32 GB DIMMs)	Up to 16 DIMM slots with 2 CPUs, up to 1 TB DDR4-2400 (Transfer rates up to 2400 MT/s) Registered ECC (w/64 GB DIMMs)
Expansion slots[6]	2 PCIe Gen3 x16 1 PCIe Gen3 x8 (open-ended connector) 1 PCIe Gen2 x4 (open-ended connector) 1 PCIe Gen2 x1 (open-ended connector) 1 PCI 32-bit/33 MT/s (legacy) Optional Thunderbolt™ 2[4] via PCIe Card	2 PCIe Gen3 x16 1 PCIe Gen3 x8 (open-ended connector) 1 PCIe Gen2 x8 (x4 elec.; open-ended connector) 1 PCIe Gen2 x4 (x1 elec.; open-ended connector) – not available with riser installed 1 Legacy PCI Optional Thunderbolt™ 2[4] via PCIe Card	2 PCIe Gen3 x16 2 PCIe Gen3 x8 (x16 mechanically) 1 PCIe Gen3 x4 (x8 mechanically) 1 PCIe Gen2 x4 (x8 mechanically Optional Thunderbolt™ 2[4] via PCIe Card
Graphics	NVIDIA® NVS™ 310[9] NVIDIA® NVS™ 315 NVIDIA® NVS™ 510[10] NVIDIA® Quadro® K420 NVIDIA® Quadro® K620 NVIDIA® Quadro® K2200 NVIDIA® Quadro® K4200 NVIDIA® Quadro® K5200 NVIDIA® Quadro® K6000 NVIDIA® Quadro® M4000 NVIDIA® Quadro® M5000 NVIDIA® Tesla® K40 AMD FirePro™ W2100 AMD FirePro(TM) W4300 AMD FirePro™ W5100 AMD FirePro™ W7100	NVIDIA® NVS™ 310[9] NVIDIA® NVS™ 315 NVIDIA® NVS™ 510[10] NVIDIA® Quadro® K420 NVIDIA® Quadro® K620 NVIDIA® Quadro® K1200 NVIDIA® Quadro® K2200 NVIDIA® Quadro® K4200 NVIDIA® Quadro® K5200 NVIDIA® Quadro® K6000 NVIDIA® Quadro® M4000 NVIDIA® Quadro® M5000 NVIDIA® Quadro® M6000 NVIDIA® Tesla® K40 AMD FirePro™ W2100 AMD FirePro™ W4300 AMD FirePro™ W5100 AMD FirePro™ W7100	NVIDIA® NVS™ 310[9] NVIDIA® NVS™ 315 NVIDIA® NVS™ 510[10] NVIDIA® Quadro® K420 NVIDIA® Quadro® K620 NVIDIA® Quadro® K1200 NVIDIA® Quadro® K2200 NVIDIA® Quadro® K4200 NVIDIA® Quadro® K5200 NVIDIA® Quadro® K6000 NVIDIA® Tesla® K40 NVIDIA® Quadro® M4000 NVIDIA® Quadro® M5000 NVIDIA® Quadro® M6000 AMD FirePro™ W2100 AMD FirePro™ W4300 AMD FirePro™ W5100 AMD FirePro™ W7100
Maximum supported displays[7]	8 displays	8 displays	12 displays
Controllers and HDDs[14,15]	Integrated SATA Controller, RAID 0, 1, 10 supported: 6 ports, 6 Gb/s Up to (4) 3.5-inch 15K rpm SAS drives: 300/600 GB: 2.4 TB max Up to (4) 2.5-inch 10K rpm SAS drives: 300/600 GB, 1.2 TB: 4.8 TB max Up to (4) 2.5-inch 15K rpm SAS drives: 300/600 GB: 2.4 TB max Up to (4) 3.5-inch 7200 rpm SATA drives: 500 GB SED SFF 500 GB, 1/ 2/3/4 TB: 16 TB max 1 TB (8 GB cache) SATA SSHD Up to (4) 2.5-inch SATA SSD: 128/256/512 GB, 1 TB: 4 TB max Up to (1) 2.5-inch SATA SED SSD: 512 GB Up to (4) 2.5-inch HP Enterprise Class SATA SSD: 240/480 GB: 2 TB max Up to (2) PCIe SSD HP Z Turbo Drives: 256/512 GB: 1 TB max Up to (2) PCIe SSD HP Z Turbo Drives G2: 256/512 GB, 1 TB: 2 TB max HP Z Turbo Drive Quad Pro: 2-4x256 GB, 2-4x512 GB: Modules: 256/512 GB: 2 TB max Note: Fourth 3.5-inch drive occupies one external 5.25-inch bay.	Integrated SATA Controller, RAID 0, 1, 10 supported: 6 ports, 6 Gb/s Up to (4) 3.5-inch 15K rpm SAS drives: 300/600 GB, 2.4 TB max Up to (4) 2.5-inch 10K rpm SAS drives: 300/600 GB, 1.2 TB: 4.8 TB max Up to (4) 2.5-inch 15K rpm SAS drives: 300/600 GB: 2.4 TB max Up to (4) 3.5-inch 7200 rpm SATA drives: 500 GB SED SFF, 500 GB, 1, 2, 3, 4 TB: 16 TB max 1 TB (8 GB cache) SATA SSHD Up to (4) 2.5-inch SATA SSD: 128/256/512 GB, 1 TB: 4 TB max Up to (1) 2.5-inch SATA Self-Encrypting Solid State Drive (SED SSD): 256, 512 GB Opal 2 Up to (4) 2.5-inch HP Enterprise Class SATA SSD: 240/ 480 GB: 2 TB max Up to (2) PCIe SSD HP Z Turbo Drives: 256/512 GB: 1 TB max Up to (2) PCIe SSD HP Z Turbo Drives G2: 256/512 GB, 1 TB: 2 TB max HP Z Turbo Drive Quad Pro: 2-4x256 GB, 2-4x512 GB: Modules: 256/512 GB: 2 TB max Note: Fourth drive occupies one external 5.25-inch bay	Integrated SATA Controller, RAID 0, 1, 10 supported: 6 ports, 6 Gb/s Integrated SAS controller, RAID 0, 1, 10 supported: 8 ports 6 Gb/s Up to (5) 3.5-inch 10K rpm SAS Drives: 300/600 GB, 1.2 TB max Up to (6) 3.5-inch 7200 rpm SATA Drives: 500 GB SED SFF, 500 GB, 1/2/4 TB: 24 TB max Up to (6) 2.5-inch SATA SSD: 128/256/512 GB, 1 TB: 6 TB max 1 TB (8 GB cache) SATA SSHD Up to (1) 2.5-inch SATA SED SSD: 256/512 GB: 512 GB max Up to (4) 2.5-inch HP Enterprise Class SATA SSD: 240/480GB: 2 TB max Up to (2) PCIe SSD HP Z Turbo Drives: 256/512 GB: 1 TB max Up to (2) PCIe SSD HP Z Turbo Drives G2: 256/512 GB, 1 TB: 2 TB max HP Z Turbo Drive Quad Pro: 2-4x256 GB, 2-4x512 GB: Modules: 256/512 GB: 2 TB max
Optical drives[16,17]	HP DX115 Removable HDD Frame/Carrier HP 9.5 mm Slim SuperMulti DVD Writer HP 9.5 mm Slim DVD-ROM Drive HP 9.5 mm Slim BDXL Blu-ray Writer HP 15-in-1 Media Card Reader	HP DX115 Removable HDD Frame/Carrier HP 9.5 mm Slim SuperMulti DVD Writer HP 9.5 mm Slim DVD-ROM Drive HP 9.5 mm Slim BDXL Blu-ray Writer HP 15-in-1 Media Card Reader	HP DX115 Removable HDD Frame/Carrier HP 9.5 mm Slim SuperMulti DVD Writer HP 9.5 mm Slim DVD-ROM Drive HP 9.5 mm Slim BDXL Blu-ray Writer HP 15-in-1 Media Card Reader
Remote Technology	HP Remote Graphics Software 6.0 (RGS)	HP Remote Graphics Software 6.0 (RGS)	HP Remote Graphics Software 6.0 (RGS)
Communications	Integrated Intel® I218LM PCIe GbE Controller Intel® Ethernet I210-T1 PCIe NIC HP X520 10GbE Dual Port Adapter HP X540-T2 10 GbE Dual Port Adapter HP 10GbE SFP+ SR Transceiver HP 361T PCIe Dual Port Gigabit NIC[21] Intel® 7260 802.11 a/b/g/n PCIe WLAN NIC Intel® 8260 802.11 a/b/g/n/ac with BlueTooth® 4.2 PCIe NIC	Integrated Intel® I218LM PCIe GbE Controller Intel® Ethernet I210-T1 PCIe NIC HP X520 10 GbE Dual Port Adapter HP X540-T2 10 GbE Dual Port Adapter HP 10 GbE SFP+ SR Transceiver HP 361T PCIe Dual Port Gigabit NIC[21] Intel® 7260 802.11 a/b/g/n PCIe WLAN NIC Intel® 8260 802.11 a/b/g/n/ac with BlueTooth® 4.2 PCIe NIC	Integrated Intel® I218LM PCIe GbE Controller Integrated Intel® I210AT PCIe GbE Controller Intel® Ethernet I210-T1 PCIe NIC HP X520 10 GbE Dual Port Adapter HP X540-T2 10 GbE Dual Port Adapter HP 10 GbE SFP+ SR Transceiver HP 361T PCIe Dual Port Gigabit NIC[21] Intel® 7260 802.11 a/b/g/n PCIe WLAN NIC

Mobile Workstations

	HP ZBook 15u G3	HP ZBook Studio
Overview	Thin, powerful, affordable.	Brilliant inside and out.
Operating systems	Windows® 10 Pro 64[12] Windows® 10 Home 64[12] Windows® 7 Professional 64[13] Windows® 7 Professional 64 (available through downgrade rights from Windows 10 Pro)[13] FreeDOS 2.0	Windows® 10 Pro 64[12] Windows® 10 Home 64[12] Windows® 7 Professional 64[13] Windows® 7 Professional 64 (available through downgrade rights from Windows® 10 Pro)[13] FreeDOS 2.0
Processor/chipset[24]	Intel® Core™ i7 6600U[2] with Intel® HD Graphics 520 Intel® Core™ i7 6500U[2] with Intel® HD Graphics 520 Intel® Core™ i5 6300U[2] with Intel® HD Graphics 520 Intel® Core™ i5 6200U[2] with Intel® HD Graphics 520 Chipset integrated with processor	Intel® Xeon® E3-1545M v5[2] with Intel® Iris™ Pro Graphics P580[8] Intel® Xeon® E3-1505M v5[2] with Intel® HD Graphics P530[8] Intel® Core™ i7-6820HQ[2] with Intel® HD Graphics 530[8] Intel® Core™ i7-6700HQ[2] with Intel® HD Graphics 530[8] Mobile Intel® CM236
Slots available/maximum memory/number of memory channels[3]	Two SODIMM slots supporting dual-channel memory up to 32 GB DDR4 1.35V Non-ECC SDRAM (Transfer rates up to 2133MT/s) 4/8 GB and 16 GB SODIMMs	Two SODIMM slots supporting up to 32 GB DDR4 1.35V ECC or Non-ECC SDRAM (Transfer rates up to 2133MT/s) 4/8 GB and 16 GB Non-ECC SODIMMs (for Intel® Core™ Processors) 8GB and 16 GB ECC SODIMMs (for Intel® Xeon® Processors)
Expansion slots	1 SD UHS-II Flash Media slot – Supports next generation SD (Secure Digital), backward compatible to SDHC, SDXC 1 Integrated Smart Card Reader (Compatible with ISO 7816 compliant Smart Cards PC/SC interface support)	1 SD UHS-II Flash Media slot – Supports next generation SD (Secure Digital), backward compatible to SDHC, SDXC) 1 Thunderbolt™ 3[5] (supporting DP 1.2, USB 3.1 Gen2, PCIe Gen 3 devices)
Graphics	Intel® HD 520 Graphics[8] AMD® FirePro® W4190M (2 GB dedicated GDDR5) Microsoft DirectX 12 (Shader Model 5.0) and OpenGL 4.4 capable AMD® Enduro™ Technology supported	Intel® HD Graphics 530 available as standalone configurable graphics HP ZBook Studio special edition: NVIDIA® Quadro® M1000M with 4 GB dedicated GDDR5 graphics memory (Intel HD graphics 530/ P530 or Intel Iris Pro Graphics P580 integrated with CPU) Microsoft DirectX 12 (Shader Model 5.0) and OpenGL 4.4 capable
Maximum supported displays[7]	Supports up to 3 displays using MST with DisplayPort 1.2	Supports up to 5 displays using the optional HP Zbook Dock with Thunderbolt 3 and hybrid graphics. Also up to 5 displays using DP1.2 MST and hybrid graphics.
Controllers and HDDs[14,15]	1 TB 5400 rpm SATA, 2.5" Hard Drive 500 GB 7200 rpm SATA, 2.5" Hard Drive 500 GB 7200 rpm SATA SED 500 GB 7200 rpm SATA SED FIPS 140-2 compliant 500 GB 5400 rpm SSHD (8 GB cache) 128 GB M.2 SATA-3 TLC SSD 256GB M.2 SATA-3 SATA SED SSD 256/512 GB, HP Z Turbo Drive (PCIe SSD)	128 GB M.2 SATA SSD 256/512 GB M.2 SATA-3 SATA SED SSD 256/512 GB, 1 TB HP Z Turbo Drive (PCIe SSD)
Remote Technology	HP Remote Graphics Software (RGS)	HP Remote Graphics Software (RGS)
Communications	Integrated Intel® I219-LM Gigabit[21] Network Connection (vPro configurations)[18,19] Integrated Intel® WGI219V 10/100/1000 Gigabit[21] Network Connection (non-vPro configurations) Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi + Bluetooth 4.2 Combo Adaptor[23] (vPro)[18,19] Intel® Dual Band Wireless-AC 3165 802.11 ac (1x1) WiFi and Bluetooth 4.0 Combo Adapter (non-vPro)[23] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi + Bluetooth 4.2 Combo Adaptor[23] (non-vPro) HP lt4120 Qualcomm® Snapdragon™ X5 LTE Mobile Broadband Module[23] HP hs3110 HSPA+ Intel® Mobile Broadband Module[23]	Integrated Intel® I219-LM Gigabit[21] Network Connection[18,19] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi + Bluetooth 4.0 Combo Adaptor[23] (vPro)[18,19] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi + Bluetooth 4.0 Combo Adaptor[23] (non-vPro)

Mobile Workstations

	HP ZBook 15 G3	HP ZBook 17 G3
Overview	Portable powerhouse.	Ultimate mobile performance.
Operating systems	Windows® 10 Pro 64[12] Windows® 10 Home 64[12] Windows® 7 Professional 64[13] Windows® 7 Professional 64 (available through downgrade rights from Windows 10 Pro)[13] FreeDOS 2.0	Windows 10 Pro 64[12] Windows 10 Home 64[12] Windows® 7 Professional 64[13] Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)[13] FreeDOS 2.0
Processor/chipset[24]	Intel® Xeon® E3-1545M v5 with Intel® Iris™ Pro Graphics P580[2] Intel® Xeon® E3-1505M v5 with Intel® HD Graphics P530[2] Intel® Core™ i7-6820HQ with Intel® HD Graphics 530[2] Intel® Core™ i7-6700HQ with Intel® HD Graphics 530[2] Intel® Core™ i5-6440HQ with Intel® HD Graphics 530[2] Mobile Intel® CM236	Intel® Xeon® E3-1575M v5 with Intel® Iris™ Pro Graphics P580[2] Intel® Xeon® E3-1535M v5[2] with Intel® HD Graphics P530[8] Intel® Core™ i7-6820HQ[2] with Intel® HD Graphics 530[2] Intel® Core™ i7-6700HQ[2] with Intel® HD Graphics 530[2] Intel® Core™ i5-6440HQ[2] with Intel® HD Graphics 530[2] Mobile Intel® CM236
Slots available/maximum memory/ number of memory channels[3]	Four SODIMM slots supporting dual channel memory up to 64 GB DDR4 1.35V ECC or Non-ECC SDRAM (With transfer rates up to 2133MT/s) 4 GB, 8 GB and 16 GB SODIMMs (for Intel® Core™ Processors) 8 GB and 16 GB ECC SODIMMs (for Intel® Xeon® Processors)	Four SODIMM slots supporting dual channel memory up to 64 GB DDR4 1.35V ECC or Non-ECC SDRAM (Transfer rates up to 2133MT/s) 4 GB, 8 GB and 16 GB SODIMMs (for Intel® Core™ Processors) 8 GB and 16 GB ECC SODIMMs (for Intel® Xeon® Processors)
Expansion slots	2 Thunderbolt 3[5] (Supporting DisplayPort 1.2, USB 3.1 Gen2, PCIe Gen 3 devices) 1 SD UHS-II Flash Media slot (Supports next generation SD (Secure Digital), backward compatible to SDHC, SDXC, 1 Integrated Smart Card Reader (Compatible with ISO 7816 compliant Smart Cards PC/SC interface support)	2 Thunderbolt 3[5] (Supporting DisplayPort 1.2, USB 3.1 Gen2, PCIe Gen 3 devices) 1 SD UHS-II Flash Media slot (Supports next generation SD (Secure Digital), backward compatible to SDHC, SDXC, 1 Integrated Smart Card Reader (Compatible with ISO 7816 compliant Smart Cards PC/SC interface support)
Graphics	Intel® HD[6] Graphics 530[8] Intel® HD[6] Graphics P530[8] Intel® Iris™ Pro Graphics P580 AMD® FirePro™ W5170M NVIDIA® Quadro® M1000M NVIDIA® Quadro® M2000M NVIDIA® Quadro® M600M[1]	Intel® HD Graphics 530[8] Intel® HD Graphics P530[8] Intel® Iris™ Pro Graphics P580 AMD® FirePro™ W6150M NVIDIA® Quadro® M1000M NVIDIA® Quadro® M2000M NVIDIA® Quadro® M3000M NVIDIA® Quadro® M4000M NVIDIA® Quadro® M5000M
Maximum supported displays[7]	Up to 3 independent displays with Intel Integrated graphics, using the system panel , VGA port, and two of the three following ports: HDMI, Thunderbolt™ 3, Thunderbol1™ 3. Up to 4 independent displays with hybrid graphics, using the system panel, VGA port and 2 out of the three following ports: HDMI, Thunderbolt™ 3, Thunderbolt™ 3 Up to 6 independent displays with hybrid graphics, when using the optional ZBook Dock with Thunderbolt™ 3.	Up to 3 independent displays with Intel Integrated graphics, using the system panel , VGA port, and two of the three following ports: HDMI, Thunderbolt™ 3, Thunderbolt™ 3. Up to 4 independent displays with hybrid graphics, using the system panel, VGA port and 2 out of the three following ports: HDMI, Thunderbolt™ 3, Thunderbolt™ 3 Up to 6 independent displays with hybrid graphics, when using the optional ZBook Dock with Thunderbolt™ 3.
Controllers and HDDs[14,15]	1TB 5400 rpm SATA, 2.5" Hard Drive 500 GB 7200 rpm SATA, 2.5" Hard Drive 500 GB 5400 rpm SATA SSHD (8 GB cache) 500 GB 7200 rpm SATA SED (Opal2) 500 GB 5400 rpm SSATA SED FIPS 140-2 compliant 256 GB M.2 SATA SED 256/512 GB, 1TB HP Z Turbo Drive (PCIe SSD)	500 GB, 1 TB 7200 rpm SATA 2.5" Hard Drive 500 GB 7200 rpm SATA 2.5" Hard Drive 500 GB SATA SATA SSHD (8 GB cache) 500 GB 7200 rpm SATA SED 500 GB 7200 rpm SATA SED FIPS 140-2 compliant 256 GB M.2 SATA Self Encrypting Drive (SED) 256/512 GB, 1TB HP Z Turbo Drive (PCIe SSD)
Remote Technology	HP Remote Graphics Software (RGS)	HP Remote Graphics Software (RGS)
Communications	Integrated Intel® I219-LM Gigabit[21] Network Connection (vPro configurations)[18,19] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 combo (vPro)[18,19,23] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 combo (non-vPro)[23] HP lt4120 Qualcomm® Snapdragon™ X5 LTE Mobile Broadband Module (optional)[23] HP hs3110 HSPA+ Intel® Mobile Broadband Module (optional)[23]	Integrated Intel® I219-LM Gigabit[21] Network Connection (vPro configurations)[18,19] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 combo (vPro)[18,19,23] Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 combo (non-vPro)[23] HP lt4120 Qualcomm® Snapdragon™ X5 LTE Mobile Broadband Module[23] HP hs3110 HSPA+ Intel® Mobile Broadband Module[23]

1. Available first half 2016
2. 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.
3. Each processor supports up to 2 channels (HP Z240 Tower/HP Z240 SFF) of DDR4 memory or 4 channels (HP Z440/HP Z640/HP Z840) of DDR4 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. Actual memory speeds dependent on processor capability.
4. Thunderbolt™ 2 is available via an optional add-in card on HP Z1 G2, HP Z240 SFF, HP Z240 Tower, HP Z440, HP Z640 and HP Z840 Workstations. It is standard on all HP ZBook G3 Mobile Workstations. 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.
5. Thunderbolt™ 3 is standard on all HP ZBook G3 Mobile Workstations.
6. In the PCIe Gen3 x16 slot, if it is not being used for a graphics card, only cards certified as After Market Options for this platform are supported.
7. Number of supported displays varies by configuration.
8. HD content required to view HD images.
9. Can be mixed with one NVS™ 510.
10. Can be mixed with one NVS™ 310.
11. Requires 400W PSU. Not supported with 280W PSU.
12. Not all features are available in all editions or versions of Windows®. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See microsoft.com.
13. This system is preinstalled with Windows® 7 Professional software and also comes with a license and media for Windows 10 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. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data
14. For hard drives, 1 GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 20 GB (for Windows 7) and up to 30 GB (For Windows 8.1 and 10) of hard drive (or system disk) is reserved for the system recovery software.
15. 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 for RAID capabilities with Linux®.
16. 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 The DVD-RAM cannot read or write to 2.6 GB Single Sided/5.2 GB Double Sided – Version 1.0 media.
17. With Blu-Ray, 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.
18. The integrated network connection is required to support Intel® vPro™ Technology.
19. If AMT is provisioned, then network teaming with the integrated LAN port is not possible.
20. The Intel® Ethernet I210-T1 PCIe NIC is supported on the following operating systems: Windows 7 and Windows 8 32-bit and 64-bit versions, Red Hat® Enterprise Linux® (RHEL), SLED 11.
21. The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.
22. Wireless cards are optional or add-on features and requires separately purchased wireless access point and internet service. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.
23. WWAN use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products, and in all regions.
24. The following applies to HP systems with Intel 6th Gen and other future-generation processors on systems shipping with Windows 7, Windows 8, Windows 8.1 or Windows 10 Pro systems downgraded to Windows 7 Professional, Windows 8 Pro, or Windows 8.1: This version of Windows running with the processor or chipsets used in this system has limited support from Microsoft. For more information about Microsoft's support, please see Microsoft's Support Lifecycle FAQ at support.microsoft.com/lifecycle.
25. 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.

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