# **HP Z820 Workstation**

### Ultimate performance for ultimate projects.



HP recommends Windows.



#### Ultimate performance for ultimate projects.

Tackle your most demanding projects like never before. The dual-processor HP Z820 Workstation delivers outstanding performance, an award-winning industrial design, and tool-free serviceability in our most expandable chassis. With next-generation Intel® Xeon® processors, support for up to 24 processing cores, and the latest professional graphics, your best work is yet to come.

# Unmatched design. Inside and out.

Easily access, customize and maintain system components with a tool-less and visually cable-free chassis—ideal for direct connections with drives and power supplies. Integrated side rails and front and back handles simplify movement. Maximize cooling and reduce acoustics with a highly streamlined form factor designed for optimized airflow.

# Superb performance.

Expand your daily potential with the Intel® Xeon® processor E5-2600 v2 family.¹ The HP Z820 can operate up to 24 processing cores, delivering the ultimate performance to help you accomplish more every minute. Featuring the C600 series chipset, LSI SAS 2308 controller, and dual Quick Path Interconnects between the processors, the two work together to help you work more effectively than ever before. Stay a step ahead with increased memory bandwidth and support up to 512 GB of the latest generation of DDR3 memory.² Connect in a flash with 4X USB 3.0 bandwidth on an optional high-performance Thunderbolt™ 2.0 port³ on the HP Z820.

# Ultra-powerful visuals.

Built to support next generation PCIe Gen3 graphics from AMD and NVIDIA, the HP Z820 Workstation currently offers a wide range of cards from Pro 2D to ultra-high-end 3D graphics to get the job done.<sup>4</sup> Drive multiple displays and multitask like a pro.<sup>5</sup> Plus, get the highest performing GPU computing solutions available in the Z family, like NVIDIA's Maximus, on the HP Z820.<sup>4</sup> Access high-performance applications, including 2D and 3D video, on-site or from a remote location with HP Remote Graphics software.<sup>6</sup>

# **HP Z820 Workstation**

- 1. 3 External 5.25" Bays
- 2. Power Button
- 3. Front I/O: 1 USB 2.0, 2 USB 3.0, 1 Headphone, 1 Microphone, 1 1394a



#### **HP Z820 Workstation**

| Systems   Windows Far Professional 4-2-bit   Windows A 1 No Loverging-to the Windows A 1 No                       |  | Rackable minitower   |  |   |  |   |   |   |  |
|---|--|--|--|---|--|---|---|---|--|
| Procession  | Available Operating<br>Systems   | Windows 7 Professional 64-bit* Windows 8.1 Pro 64-bit** Windows 8.1 Pro Downgrade to Windows 7 Professional 32-bit*** Windows 8.1 Pro Downgrade to Windows 7 Professional 64-bit*** Microsoft Windows 7 Pro (MSNA) 64-bit 0S   |  |   |  |   |   |   |  |
| Procession  | Available  | Processor  | GHz  | Cache   | Memory   | Cores   | Hyper-Threading   | Intel® vPro™ Technology   | Intel® Turbo Boost Technology  |
| Intel Xeon Processor 15-2967   2 0 1 5 M8   133 M1/s   5  | Processors <sup>1,7,8</sup>  |  |  |   | -  |   | -   | -   | 3,   |
| Intel Name Processor Sci - 2667 v   |  |  |  |   |  |   |   |   |  |
| Intel® Mean Processor 15-2680 vg  |  |  |  |   |  |   |   |   |  |
| MINIX Mon Processor 15-2680 V   |  |  | 2.4  | 30 MB   | 1866 MT/s  | 12  | Υ   |   | 4, 8   |
| Intell X AGO   Processor   E3-260 by   2   28   25 MB   80 M/S   10   V   V   4, 8   14   14   14   14   14   14   14   |  |  |  |   |  |   |   | ·   |  |
| Intal Xuon Processor 15-2670 V 2 55 S MB 1666 MT/s 10 V V V 4,8 h Half Xuon Processor 15-26670 V 2 22 S MB 1666 MT/s 10 V V V 4,8 h Half Xuon Processor 15-2660 V 2 22 S MB 1666 MT/s 10 V V V 4,8 h Half Xuon Processor 15-2660 V 2 22 S MB 1666 MT/s 10 V V V 4,4 B Half Xuon Processor 15-2660 V 2 20 20 MB 1666 MT/s 10 V V V 4,4 B Half Xuon Processor 15-2660 V 2 20 20 MB 1666 MT/s 10 V V V 1,3 3 Half Xuon Processor 15-2660 V 2 20 20 MB 1666 MT/s 10 V V V 1,3 3 Half Xuon Processor 15-2660 V 2 10 20 MB 1660 MT/s 10 V V V 1,3 3 Half Xuon Processor 15-2660 V 2 10 10 MB 1660 MT/s 10 V V V 1,3 3 Half Xuon Processor 15-2660 V 2 11 10 MB 1660 MT/s 10 V V V 1,3 5 Half Xuon Processor 15-2660 V 2 11 10 MB 1333 MT/s 10 V V V V 1,3 5 Half Xuon Processor 15-2660 V 2 2.5 10 MB 1333 MT/s 10 V V V V 1,3 5 Half Xuon Processor 15-2660 V 2 2.5 10 MB 1333 MT/s 10 V V V V V 1,3 5 Half Xuon Processor 15-2660 V 2 2.5 10 MB 1333 MT/s 10 V V V V V V 1,3 5 Half Xuon Processor 15-2660 V 2 2.5 10 MB 1333 MT/s 10 V V V V V V V 1,3 5 Half Xuon Processor 15-2660 V 2 2.5 10 MB 1333 MT/s 10 V V V V V V V V V V V V V V V V V V  |  |  |  |   |  |   |   | ·   |  |
| Intel More   Processor   S-26-67 v   3.3   2.5 MB   166 MTs   8   V   V   V   4.8   Intel More   Processor   S-26-69 v   2.2   2.5 MB   166 MTs   8   V   V   V   4.8   Intel More   Processor   S-26-69 v   2.6   2.0 MB   166 MTs   8   V   V   V   V   4.8   Intel More   Processor   S-26-69 v   2.6   2.0 MB   166 MTs   8   V   V   V   V   3.3   Intel More   Processor   S-26-69 v   2.0   2.0 MB   166 MTs   8   V   V   V   V   3.3   Intel More   Processor   S-26-69 v   2.0   2.0 MB   166 MTs   8   V   V   V   V   3.3   Intel More   Processor   S-26-30 v   2.5   15 MB   160 MTs   6   V   V   V   V   3.3   Intel More   Processor   S-26-90 v   2.5   15 MB   160 MTs   6   V   V   V   V   3.3   Intel More   Processor   S-26-90 v   2.5   15 MB   160 MTs   6   V   V   V   V   3.3   Intel More   Processor   S-26-90 v   2.5   15 MB   160 MTs   4   V   V   V   V   V   3.3   Intel More   Processor   S-26-90 v   2.5   10 MB   133 MTs   4   N   V   V   V   V   V   V   V   Intel More   Processor   S-26-90 v   2.5   10 MB   133 MTs   4   N   V   V   V   V   V   V   V   V   V   |  |  |  |   |  |   | •   |   |  |
| Intil X Keen Processor ES-2650 V 2 2 6 20 Ms 186 MT/s 10 Y Y Y 4,8 E Intil X Keen Processor ES-2650 V 2 1 3.5 E MB 186 MT/s 6 Y Y Y 3, 1,3 E MT/s Keen Processor ES-2650 V 2 1 2.0 20 Ms 1600 MT/s 6 Y Y Y 3, 3,5 E Intil X Keen Processor ES-2640 V 3 1.5 E MB 186 MT/s 4 Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 5 MB 186 MT/s 4 Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 5 MB 186 MT/s 4 Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y 3, 3,5 E Intil X Keen Processor ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y N N N N INTIL X KEEN PROCESSOR ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y N N N N INTIL X KEEN PROCESSOR ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y Y Y Y N N N N INTIL X KEEN PROCESSOR ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y N Y Y N N N N INTIL X KEEN PROCESSOR ES-2630 V 2 1 1 15 MB 1800 MT/s 6 Y N N Y N N N N N N N N N N N N N N N  |  |  |  |   |  |   | •   | ·   |  |
| Intel Xoon Processor Es-2640 v. 2.6. 20 MB. 1866 MIJS 8 Y Y Y 3.3.3 Intel Xoon Processor Es-2640 v. 2.0. 20 MB. 1866 MIJS 6 Y Y Y 3.3.3 Intel Xoon Processor Es-2630 v. 2.6. 20 MB. 1866 MIJS 8 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 15 MB. 1866 MIJS 8 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 15 MB. 1866 MIJS 8 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 15 MB. 1866 MIJS 6 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 15 MB. 1860 MIJS 6 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 15 MB. 1800 MIJS 6 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 15 MB. 1800 MIJS 6 Y Y Y 3.3.5 Intel Xoon Processor Es-2630 v. 2.6. 10 MB. 1833 MIJS 4 N N Y N NA N   |  |  |  |   |  |   |   |   |  |
| Intel Xeon Processor E5-2643 y 2  |  |  |  |   |  |   | •   |   |  |
| Intel & Keon Processor 15-2-537 v2   3.5   15 MB   1600 MT/s   6   V   V   V   3.5     Intel & Keon Processor 15-2-567 v2   2.6   15 MB   1600 MT/s   6   V   V   V   3.5     Intel & Keon Processor 15-2-567 v2   2.5   10 MB   1333 MT/s   4   N   V   V   N/A     Intel & Keon Processor 15-2-560 v2   2.5   10 MB   1333 MT/s   4   N   V   N/A     Intel & Keon Processor 15-2-560 v2   2.5   10 MB   1333 MT/s   4   N   V   N/A     Intel & Keon Processor 15-2-560 v2   2.5   10 MB   1333 MT/s   4   N   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   N/A     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   V   V   V   V   V     Intel & Keon Processor 15-2-560 v2   1.8   10 MB   1333 MT/s   4   N   V   V   V   V   V   V   V   V   V   |  |  |  |   |  |   | Y   | Y   |  |
| Intel & Kenn Processor 15-2-600 v2  |  | Intel Xeon Processor E5-2640 v2  | 2.0  | 20 MB   | 1600 MT/s  | 8   | Υ   | Υ   | 3,5  |
| Intel Xoon Processor E5-2603 v  |  | Intel Xeon Processor E5-2637 v2  | 3.5  | 15 MB   | 1866 MT/s  | 4   | Υ   | Υ   | 1, 3   |
| Intel X Koon Processor IS-52603 v2   1.8   10 MB   1333 MT/S   4   N   Y   N/A   Intel X con Processor IS-52603 v2   1.8   10 MB   1333 MT/S   4   N   Y   N/A   N/A  |  | Intel Xeon Processor E5-2630 v2  | 2.6  | 15 MB   | 1600 MT/s  | 6   | Υ   | Υ   | 3, 5   |
| Intel Xeon Processor E5-2603 v2   1.8   10 MB   1333 MT/s   4   N   Y   NA  |  |  |  |   |  |   | •   |   |  |
| Memory   No.   16 DIMM slots, up to 512 GB, B-channel ECC DDR3, up to 1866 MT/s, 4 channels per CPU   |  |  |  |   |  |   |   |   |  |
| Third Controllers  Integrated 2-channel SATA 6 (bl/s controller, RAID 0, 1 capable; Integrated 4-channel SATA 3 (bl/s controller, RAID 0, 1, 5, 10 capable; Integrated 8-channel SATA 6 (bl/s controller, RAID 0, 1, 10 capable; Optional SAS controller; LSI 9270-8183A/SATA, 8-port 6 (bl/s HW RAID 0, 1, 5, 10 capable)  Storage***  Up to (6) 2.5-inch 7200 rpm SATA drives; 500 GB, 1, 2, 3 TB, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 250, 250 GB SFF, 15 TB max; Up to (6) 2.5-inch                     | Chipset  | Intel® C602 Chipset  |  |   |  |   |   |   |  |
| Third Controllers  Integrated 2-channel SATA 6 (bl/s controller, RAID 0, 1 capable; Integrated 4-channel SATA 3 (bl/s controller, RAID 0, 1, 5, 10 capable; Integrated 8-channel SATA 6 (bl/s controller, RAID 0, 1, 10 capable; Optional SAS controller; LSI 9270-8183A/SATA, 8-port 6 (bl/s HW RAID 0, 1, 5, 10 capable)  Storage***  Up to (6) 2.5-inch 7200 rpm SATA drives; 500 GB, 1, 2, 3 TB, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1000 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 500, 1500 GB SFF, 15 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 250, 250, 250 GB SFF, 15 TB max; Up to (6) 2.5-inch                     | Memory <sup>10</sup>   | · · · · · · · · · · · · · · · · · · ·  | iannel ECC Di  | DR3 un to 186   | 66 MT/s 4 chann  | els ner CPII  |   |   |  |
| Storage****  Up to (5) 3.5-inch 7200 rpm SATA drives; 500 68, 12, 23 TB, 15 TB max; Up to (5) 2.5-inch AIV (10 c) 3.5-inch 7200 rpm SATA drives; 500 68, 12, 23 TB, 15 TB max; Up to (5) 2.5-inch 10K rpm SATA drives; 300, 685 FF, 1.5 TB max; Up to (6) 2.5-inch 10K rpm SATA drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (5) 3.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (5) 3.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 600, 900 68, 1.2 TB SFF, 7.2 TB max; Up to (6) 2.5-inch 15K rpm SAS drives; 300, 450, 600, 600, 600, 600, 600, 600, 600, 6  |  |  |  |   |  | -   | 2 Gh/s controller PAID 0  | 1 5 10 capable: Integrated 8  | -channol SAS 6 Gh/s controller   |
| drives: 250, 500, 1000 GB FFF, GTB max; Up to (6) 2.5-inch 10K rpm SAS drives: 300, 600, 900 GB, 1.2 TB FFF, 7.2 TB max; Up to (6) 3.5-inch 13K rpm SAS drives: 300, 450, 600 GB, 3.1 TB max; Up to (1) 2.5-inch SATA self-encrypting hard drive (SED HDD): 500 GB; Up to (1) PCle SSD Fusion io FX 410 GB PCle; Up to (2) PCle SSD HP Z Turbo Drives 256 GB, 512 GB (1 TB max)****  Optical Storage****  DVD-ROM, DVD+ROM, DVD+RW Super-Multi and Slot-Load, Blu-ray Writer, 15-in-1 Media Card Reader  Drive Bays  3 external 5.25-inch bays, 4 internal 3.5-inch bays  Expansion Slots  2 PCl Express Gen3 x16; 1 PCl Express Gen3 x16; 1 Available only with 2nd CPU); 1 PCl Express Gen3 x16 mechanical/x8 electrical; 1 PCl Express Gen3 x8 mechanical/x4 electrical 1 PCl Express Gen3 x8 mechanical/x8 electrical; 1 Legacy PCl  Available Graphics  Professional 2D: NVIDIA® NVS™ 300, NVIDIA® NVS™ 310, NVIDIA® NVS™ 315, NVIDIA® NVS™ 510 Entry 3D: NVIDIA® Quadro® 410, NVIDIA® Quadro® 4500, AND FirePro™ V3900  Mid-range 3D: NVIDIA® Quadro® 410, NVIDIA® Quadro® 4500, NVIDIA® Quadro® 5000, NVIDIA® Quadro® K5000, NVIDIA® Qua                    |  |  |  |   |  |   |   |   |  |
| Drive Bays  3 external 5.25-inch bays, 4 internal 3.5-inch bays  Expansion Slots  2 PCI Express Gen3 x16; 1 PCI Express Gen3 x16 (Available only with 2nd CPU); 1 PCI Express Gen3 x16 mechanical/x8 electrical; 1 PCI Express Gen3 x8 mechanical/x4 electrical 1 PCI Express Gen3 x8 mechanical/x4 electrical; 1 Legacy PCI  Available Graphics  Professional 2D: NVIDIA® VUS™ 300, NVIDIA® NVS™ 310, NVIDIA® NVS™ 315, NVIDIA® NVS™ 310, MVIDIA® Quadro® K500, AMD FirePro™ V3900 Mid-range 3D: NVIDIA® Quadro® K2000 High-end 3D: NVIDIA® Quadro® K4000, AMD FirePro™ V7000, NVIDIA® Quadro® Sync (GPU), Intel® Phi P3120 (GPU)  Audio  Integrated Intel/Realtek HD ALCZ6Z Audio, optional HP Thin USB Powered Speakers  Network  Dual integrated Intel GbE LAN; Infineon TPM 1.2 Controller; Optional Broadcom NIC; Optional Intel NIC; WLAN Intel 7260 802.11 a/b/g/n/ PCIe x 1 NIC  Ports  Front: 2 USB 3.0, 1 USB 2.0, 1 IEEE 1394a standard, 1 microphone in, 1 headphone out, HP 14-in-1 Media Card Reader (optional), HP 15-in-1 Media Card Reader (optional) Rear: 2 USB 3.0, 4 USB 2.0, 1 IEEE 1394a; 1 audio in, 1 audio out, 1 microphone in, 2 P5/2, 2 RJ-45 to integrated Gigabit LAN, 1 serial, 1 Thunderbolt™ 2 port via option add-in PCIe card™ Internal: 6 USB 2.0 ports available by three 2x5 headers  Remote Technology  HP Remote Graphics Software (RGS)  Input Devices  HP USB Optical 3-Button Mouse, HP USB SmartCard CCID Keyboard, HP Wireless Keyboard & Mouse, HP USB Optical 3-Button 2.9M OEM Mouse, HP USB 1000dpi Laser Mouse Pro USB 3D Input, HP SpacePliot 3 D USB Intelligent Controller, HP PS/2 Keyboard, HP PS/2 Mouse, HP USB Keyboard, HP USB Optical Mouse, HP USB 1000dpi Laser Mouse  Dimensions (Hx W x D)  17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  Power Supply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR2440w 27-inch LED Backlit IPS Monitor, HP ZR2440w 24-inch LED Backlit IPS Moni                     | Storage <sup>11,12</sup>   | 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 SFF, 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: 256 GB; Up to (1)   |  |   |  |   |   |   |  |
| Expansion Slots  2 PCI Express Gen3 x16; 1 PCI Express Gen3 x16; (Available only with 2nd CPU); 1 PCI Express Gen3 x16 mechanical/x8 electrical; 1 PCI Express Gen3 x8 mechanical/x4 electrical; 1 Legacy PCI  Available Graphics  Professional 2D: NVIDIA® VNS™ 300, NVIDIA® VNS™ 315, NVIDIA® NVS™ 510 Entry 3D: NVIDIA® Quadro® K2000 Midr-range 3D: NVIDIA® Quadro® K2000 NVIDIA® Quadro® K2000, AMD FirePro™ W7000, NVIDIA® Quadro® S000, NVIDIA® Quadro® K5000, NVIDIA® Tesla™ K20; NVIDIA® Colladro® K5000, NVIDIA® Quadro® S000, NVIDIA® Quadro® K5000, NVIDIA® Tesla™ K20; NVIDIA® Colladro® K5000, NVIDIA® Quadro® K5000, NVIDIA® Quadro® K5000, NVIDIA® Tesla™ K20; NVIDIA® Quadro® K5000, NVIDIA® Qu                     |  | DVD-ROM, DVD+/-RW Super-Multi and Slot-Load, Blu-ray Writer, 15-in-1 Media Card Reader   |  |   |  |   |   |   |  |
| Available Graphics Professional 2D: NVIDIA® VIS™ 300, NVIDIA® VIS™ 310, NVIDIA® NVS™ 315, NVIDIA® VIS™ 510 Entry 3D: NVIDIA® Quadro® K4000, AMD FirePro™ V3900 Mid-range 3D: NVIDIA® Quadro® K2000 High-end 3D: NVIDIA® Quadro® K4000, AMD FirePro™ W7000, NVIDIA® Quadro® S000, NVIDIA® Quadro® K5000, NVIDIA® Quadro® K6000, NVIDIA® Tesla™ C2075™, NVIDIA® Tesla™ K20c, NVIDIA® Tesla™ K20c, NVIDIA® Quadro® Sync (GPU), Intel® Phi P3120 (GPU)  Audio Integrated Intel/Realtek HD ALC262 Audio, optional HP Thiri USB Powered Speakers  Network Dual integrated Intel GbE LAN; Infineon TPM 1.2 Controller; Optional Broadcom NIC; Optional Intel NIC; WLAN Intel 7260 802.11 a/b/g/n/ PCIe x 1 NIC  Ports Front: 2 USB 3.0, 1 USB 2.0, 1 IEEE 1394a standard, 1 microphone in, 1 headphone out, HP 14-in-1 Media Card Reader (optional), HP 15-in-1 Media Card Reader (optional) Rear: 2 USB 3.0, 4 USB 2.0, 1 IEEE 1394a, 1 audio in, 1 audio out, 1 microphone in, 2 PS/2, 2 RJ-45 to Integrated Gigabit LAN, 1 serial, 1 Thunderbolt™ 2 port via option add-in PCIe card™ Internal: 6 USB 2.0 ports available by three 2x5 headers  Remote Technology HP Remote Graphics Software (RGS)  Input Devices HP USB Optical 3-Button Mouse, HP USB SmartCard CCID Keyboard, HP Wireless Keyboard & Mouse, HP USB Optical 3-Button Z9M OEM Mouse, HP USB 1000dpi Laser Mouse Dimensions (Hx W x D) 17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  Power Suply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction HP ZR2240w 24-inch LED Backlit IPS Monitor, HP ZR2240w 24-inch                     | Optical Storage <sup>13,14</sup>   | DVD-ROM, DVD+/-RW Super-Mul  | ti and Slot-Lo   | oad, Blu-ray V  | Vriter, 15-in-1 Me   | dia Card Rea  | nder  |   |  |
| Entry 3D: NVIDIA® Quadro® 410, NVIDIA® Quadro® K600, AMD FirePro™ V3900 Mid-range 3D: NVIDIA® Quadro® K2000 High-end 3D: NVIDIA® Quadro® K2000 High-end 3D: NVIDIA® Quadro® K5000, AMD FirePro™ W7000, NVIDIA® Quadro® 5000, NVIDIA® Quadro® K5000, NVIDIA® Quadro® K6000, NVIDIA® Tesla™ K20c, NVIDIA® Tesla™ K20c, NVIDIA® Quadro® 5000, NVIDIA® Quadro® K5000, NVIDIA® Quadro® K6000, NVIDIA® Quad                     | Optical Storage <sup>13,14</sup><br>Drive Bays   | · · · · · · · · · · · · · · · · · · ·  |  |   | Vriter, 15-in-1 Me   | dia Card Rea  | der   |   |  |
| Ports Front: 2 USB 3.0, 1 USB 2.0, 1 IEEE 1394a standard, 1 microphone in, 1 headphone out, HP 14-in-1 Media Card Reader (optional), HP 15-in-1 Media Card Reader (optional), HP 2 Notional), HP 2 Notional, HP                     |  | 3 external 5.25-inch bays, 4 inte<br>2 PCI Express Gen3 x16; 1 PCI Exp   | nal 3.5-inch<br>ress Gen3 x1   | bays<br>6 (Available oi   | nly with 2nd CPU)  |   |   | /x8 electrical; 1 PCI Express Ge  | en3 x8 mechanical/x4 electrical;   |
| Front: 2 USB 3.0, 1 USB 2.0, 1 IEEE 1394a standard, 1 microphone in, 1 headphone out, HP 14-in-1 Media Card Reader (optional), HP 15-in-1 Media Card Reader (optional), HP 15-in-1 Media Card Reader (optional), HP 15-in-1 Media Card Reader (optional), add-in PCle card <sup>3.4</sup> Internal: 6 USB 2.0, 1 IEEE 1394a, 1 audio in, 1 audio out, 1 microphone in, 2 PS/2, 2 RJ-45 to integrated Gigabit LAN, 1 serial, 1 Thunderbolt™ 2 port via option add-in PCle card <sup>3.4</sup> Internal: 6 USB 2.0 ports available by three 2x5 headers  Remote Technology  HP Remote Graphics Software (RGS)  Input Devices  HP USB Optical 3-Button Mouse, HP USB SmartCard CCID Keyboard, HP Wireless Keyboard & Mouse, HP USB Optical 3-Button 2.9M OEM Mouse, HP USB 3D Input, HP SpacePilot 3D USB Intelligent Controller, HP PS/2 Keyboard, HP USB Keyboard, HP USB Optical Mouse, HP USB 1000dpi Laser Mouse  Dimensions (H x W x D)  17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  Power Supply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP ZR2040w 24-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 23-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 23-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 21-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 21-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 21-inch IPS Display, HP Z Display Z23i 21-inch IPS Display, HP Z Display Z23i 21-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 21-inch IPS Display Z23i 21-i | Drive Bays   | 3 external 5.25-inch bays, 4 inte  2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica  Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac  | rnal 3.5-inch<br>ress Gen3 x1<br>al/x4 electrica<br>4 300, NVIDIA<br>ro® 410, NVII<br>ro® K2000<br>ro® K4000, A  | bays 6 (Available or al; 1 Legacy P( 18 NVS™ 310, DIA® Quadro®  | nly with 2nd CPU)<br>II<br>NVIDIA® NVS™ 3<br>K600, AMD FireF<br>W7000, NVIDIA®   | ; 1 PCI Expre<br>15, NVIDIA® N<br>1ro™ V3900<br>Quadro® 50  | ss Gen3 x16 mechanical<br>IVS™ 510<br>00, NVIDIA® Quadro® K   | 5000, NVIDIA® Quadro® K6000   |  |
| Rear: 2 USB 3.0, 4 USB 2.0, 1 IEEE 1394a, 1 audio in, 1 audio out, 1 microphone in, 2 PS/2, 2 RJ-45 to integrated Gigabit LAN, 1 serial, 1 Thunderbolt™ 2 port via option add-in PCle card <sup>3.4</sup> [Internal: 6 USB 2.0 ports available by three 2x5 headers  Remote Technology  HP Remote Graphics Software (RGS)  Input Devices  HP USB Optical 3-Button Mouse, HP USB SmartCard CCID Keyboard, HP Wireless Keyboard & Mouse, HP USB Optical 3-Button 2.9M 0EM Mouse, HP SpaceMouse Pro USB 3D Input, HP SpacePilot 3D USB Intelligent Controller, HP PS/2 Keyboard, HP USB Keyboard, HP USB Optical Mouse, HP USB 1000dpi Laser Mouse  Dimensions (H x W x D)  17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  Power Supply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP ZR2440w 24-inch LED Backlit IPS Monitor, HP LP2475w 24-inch Widescreen LCD Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 23-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z22i 21.5-inch IPS Display, HP Z Display Z27i 27-inch IPS Display, HP Z Display Z24i 24-inch III Splay IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z22i 21.5-inch IPS Display  | Drive Bays  Expansion Slots  Available Graphics  | 3 external 5.25-inch bays, 4 inte  2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica  Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac NVIDIA® Tesla  | ress Gen3 x1<br>Il/x4 electrica<br>4 300, NVIDIA<br>ro® 410, NVII<br>ro® K2000<br>ro® K4000, A<br>M K20c, NVII   | bays  6 (Available or al; 1 Legacy P( ali NVS™ 310, DIA® Quadro® MD FirePro™ Kind Tesla™ Kind   | nly with 2nd CPU,<br>[1<br>NVIDIA® NVS™ 3<br>K600, AMD FireF<br>W7000, NVIDIA®<br>40, NVIDIA® Quai   | ; 1 PCI Expre  15, NVIDIA® N  Pro™ V3900  Quadro® 50  dro® Sync (Gf   | ss Gen3 x16 mechanical<br>IVS™ 510<br>00, NVIDIA® Quadro® K   | 5000, NVIDIA® Quadro® K6000   |  |
| Internal: 6 USB 2.0 ports available by three 2x5 headers  Remote Technology  HP Remote Graphics Software (RGS)  HP USB Optical 3-Button Mouse, HP USB SmartCard CCID Keyboard, HP Wireless Keyboard & Mouse, HP USB Optical 3-Button 2.9M 0EM Mouse, HP SpaceMouse Pro USB 3D Input, HP SpacePilot 3D USB Intelligent Controller, HP PS/2 Keyboard, HP PS/2 Mouse, HP USB Keyboard, HP USB Optical Mouse, HP USB 1000dpi Laser Mouse  Dimensions (H x W x D)  17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  Power Supply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP ZR22440w 24-inch LED Backlit IPS Monitor, HP LP2475w 24-inch Widescreen LCD Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP Display Z23i 23-inch IPS Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z23i 21.5-inch IPS Display  Backlit IPS Monitor, HP ZDisplay Z23i 23-inch IPS Display, HP Z Display Z22i 21.5-inch IPS Display   | Drive Bays Expansion Slots   | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Case Integrated Intel/Realtek HD ALC2   | rnal 3.5-inch<br>ress Gen3 x1<br>Il/x4 electrica<br>da 300, NVIDIA<br>ro® 410, NVII<br>ro® K2000<br>ro® K4000, A<br>M K20c, NVIE<br>62 Audio, op   | bays 6 (Available or all; 1 Legacy P(  NVS™ 310, DIA® Quadro®  MD FirePro™ DIA® Tesla™ Kitional HP Thir   | nly with 2nd CPU;<br>I<br>NVIDIA® NVS™ 3<br>K600, AMD Firef<br>W7000, NVIDIA®<br>40, NVIDIA® Quan  | ; 1 PCI Expre  15, NVIDIA® N  1ro™ V3900  Quadro® 50  dro® Sync (Gf   | ss Gen3 x16 mechanical<br>IVS™ 510<br>00, NVIDIA® Quadro® K<br>PU), Intel® Phi P3120 (G   | 5000, NVIDIA® Quadro® K600(<br>PU)  | ), NVIDIA® Tesla™ C2075¹5,   |
| Input Devices  HP USB Optical 3-Button Mouse, HP USB SmartCard CCID Keyboard, HP Wireless Keyboard & Mouse, HP USB Optical 3-Button 2.9M 0EM Mouse, HP SpaceMouse Pro USB 3D Input, HP SpacePilot 3D USB Intelligent Controller, HP PS/2 Keyboard, HP PS/2 Mouse, HP USB Keyboard, HP USB Optical Mouse, HP USB 1000dpi Laser Mouse  Dimensions (H x W x D)  17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  Compatible Displays (screen size diagonally measured)  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP LP2475w 24-inch Widescreen LCD Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP DreamColor LP2480zx Professional Display, HP Z Display Z30i 30-inch IPS Display, HP Z Display Z27i 27-inch IPS Display, HP Z Display Z24i 24-inch If Display, HP Z Display Z23i 23-inch IPS Display, HP Z Display Z22i 21.5-inch IPS Display  | Drive Bays  Expansion Slots  Available Graphics  Audio   | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac NVIDIA® Tesla  Integrated Intel/Realtek HD ALC2 Dual integrated Intel GbE LAN; In  Front: 2 USB 3.0, 1 USB 2.0 Rear: 2 USB 3.0, 4 USB 2.0  | rnal 3.5-inch ress Gen3 x1 Il/x4 electrica delectrica   | bays  6 (Available or al; 1 Legacy P(  N NVS™ 310, DIA® Quadro®  MD FirePro™ DIA® Tesla™ K- tional HP Thir  2 Controller; a standard, 1   | nly with 2nd CPU,<br>I<br>NVIDIA® NVS™ 3<br>K600, AMD Firef<br>W7000, NVIDIA®<br>40, NVIDIA® Quar<br>n USB Powered S<br>Optional Broadc<br>microphone in, 1  | ; 1 PCI Expre  15, NVIDIA® N  16 N V3900  Quadro® 50  dro® Sync (GI  peakers  Dm NIC; Optic  headphone of   | ss Gen3 x16 mechanical<br>IVS™ 510<br>00, NVIDIA® Quadro® K<br>PU), Intel® Phi P3120 (G<br>onal Intel NIC; WLAN Int<br>out, HP 14-in-1 Media Ca   | 5000, NVIDIA® Quadro® K6000<br>PU)<br>el 7260 802.11 a/b/g/n/ PCIe »<br>ord Reader (optional), HP 15-in   | ), NVIDIA® Tesla™ C2075¹⁵,<br><1 NIC<br>-1 Media Card Reader (optional)  |
| Dimensions (H x W x D)  17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 52.5 cm)  Power Supply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP ZR22440w 24-inch LED Backlit IPS Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch IPS Display Z201 23-inch IPS Display Z201 23-inch IPS Display Z201 21.5-inch IPS Display Z201 27-inch IPS Display Z201 27-inch IPS Display Z201 21.5-inch IPS D                    | Drive Bays  Expansion Slots  Available Graphics  Audio  Network  | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac NVIDIA® Testa Integrated Intel/Realtek HD ALC2 Dual integrated Intel GbE LAN; In Front: 2 USB 3.0, 1 USB 2.0 Rear: 2 USB 3.0, 4 USB 2.0 add-in PCIe card <sup>3,4</sup>  | rnal 3.5-inch ress Gen3 x1 Il/x4 electrica delectrica   | bays  6 (Available or all; 1 Legacy P(  © NVS™ 310, DIA® Quadro®  MD FirePro™  MD FirePro™  Kottonal HP Thir  C Controller; a standard, 1  4a, 1 audio in,  | nly with 2nd CPU;<br>I<br>NVIDIA® NVS™ 3<br>K600, AMD FireF<br>W7000, NVIDIA®<br>40, NVIDIA® Quan<br>1 USB Powered S<br>Optional Broadc<br>microphone in, 1<br>1 audio out, 1 m  | ; 1 PCI Expre  15, NVIDIA® N  16 N V3900  Quadro® 50  dro® Sync (GI  peakers  Dm NIC; Optic  headphone of   | ss Gen3 x16 mechanical<br>IVS™ 510<br>00, NVIDIA® Quadro® K<br>PU), Intel® Phi P3120 (G<br>onal Intel NIC; WLAN Int<br>out, HP 14-in-1 Media Ca   | 5000, NVIDIA® Quadro® K6000<br>PU)<br>el 7260 802.11 a/b/g/n/ PCIe »<br>ord Reader (optional), HP 15-in   | ), NVIDIA® Tesla™ C2075¹⁵,<br><1 NIC<br>-1 Media Card Reader (optional)  |
| Power Supply  850W 88% Efficient wide-ranging, active Power Factor Correction or 1125W 90% Efficient wide-ranging, active Power Factor Correction  Compatible Displays (screen size diagonally measured)  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP ZR2240w 24-inch LED Backlit IPS Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP DreamColor LP2480zx Professional Display, HP Z Display Z30i 30-inch IPS Display, HP Z Display Z27i 27-inch IPS Display, HP Z Display Z24i 24-inch IPS Display LPZ Display Z23i 23-inch IPS Display Z22i 21.5-inch IPS Display   | Drive Bays  Expansion Slots  Available Graphics  Audio  Network  | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac NVIDIA® Tesla Integrated Intel/Realtek HD ALC2 Dual integrated Intel GbE LAN; In Front: 2 USB 3.0, 4 USB 2.0 Rear: 2 USB 3.0, 4 USB 2.0 add-in PCIe card <sup>3.4</sup> Internal: 6 USB 2.0 ports ava   | rnal 3.5-inch ress Gen3 x1 il/x4 electrica da 300, NVIDIA ro® 410, NVII ro® K2000 ro® K4000, A M K20c, NVII 62 Audio, op fineon TPM 1 , 1 IEEE 1394 ), 1 IEEE 1394 ilable by thre  | bays  6 (Available or all; 1 Legacy P(  © NVS™ 310, DIA® Quadro®  MD FirePro™  MD FirePro™  Kottonal HP Thir  C Controller; a standard, 1  4a, 1 audio in,  | nly with 2nd CPU;<br>I<br>NVIDIA® NVS™ 3<br>K600, AMD FireF<br>W7000, NVIDIA®<br>40, NVIDIA® Quan<br>1 USB Powered S<br>Optional Broadc<br>microphone in, 1<br>1 audio out, 1 m  | ; 1 PCI Expre  15, NVIDIA® N  16 N V3900  Quadro® 50  dro® Sync (GI  peakers  Dm NIC; Optic  headphone of   | ss Gen3 x16 mechanical<br>IVS™ 510<br>00, NVIDIA® Quadro® K<br>PU), Intel® Phi P3120 (G<br>onal Intel NIC; WLAN Int<br>out, HP 14-in-1 Media Ca   | 5000, NVIDIA® Quadro® K6000<br>PU)<br>el 7260 802.11 a/b/g/n/ PCIe »<br>ord Reader (optional), HP 15-in   | ), NVIDIA® Tesla™ C2075¹⁵,<br><1 NIC<br>-1 Media Card Reader (optional)  |
| Compatible Displays (screen size diagonally measured)  HP DreamColor LP2480zx Professional Display (24-inch diagonal widescreen), HP ZR30w 30-inch S-IPS LCD Monitor, HP ZR2740w 27-inch LED Backlit IPS Monitor, HP ZR2440w 24-inch LED Backlit IPS Monitor, HP LP2475w 24-inch Widescreen LCD Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 21.5-inch IPS Display, HP Z Display Z20-inch IPS Display, HP Z Display Z20-inch IPS Display, HP Z Display Z20-inch IPS Display Z20-i                    | Drive Bays  Expansion Slots  Available Graphics  Audio  Network  Ports   | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac NVIDIA® Tesla Integrated Intel/Realtek HD ALC2 Dual integrated Intel GbE LAN; In Front: 2 USB 3.0, 1 USB 2.0 Rear: 2 USB 3.0, 1 USB 2.0 Add-in PCIc card <sup>3,4</sup> Internal: 6 USB 2.0 ports ava HP Remote Graphics Software (R   | rnal 3.5-inch ress Gen3 x1 Il/x4 electrica delectrica d | bays  6 (Available or alt; 1 Legacy P(  NVS™ 310, DIA® Quadro®  MD FirePro™ Kannal HP Thir  2 Controller; a standard, 1 4a, 1 audio in, be 2x5 header   | nly with 2nd CPU,  I  NVIDIA® NVS™ 3  K600, AMD Firef  W7000, NVIDIA® 40, NVIDIA® Quad  n USB Powered S  Optional Broadc  microphone in, 1 1 audio out, 1 m  s   | ; 1 PCI Expre  15, NVIDIA® N  Pro™ V3900  Quadro® 500  Quadro® Sync (GI  peakers  pem NIC; Optic  headphone of icrophone in   | ss Gen3 x16 mechanical  IVS <sup>M</sup> 510  00, NVIDIA® Quadro® K PU), Intel® Phi P3120 (G  onal Intel NIC; WLAN Intel  out, HP 14-in-1 Media Ca  1, 2 PS/2, 2 RJ-45 to intel  d & Mouse, HP USB Opti   | 5000, NVIDIA® Quadro® K6000<br>PU)<br>el 7260 802.11 a/b/g/n/ PCle s<br>ard Reader (optional), HP 15-in<br>egrated Gigabit LAN, 1 serial, 1   | D, NVIDIA® Tesla™ C2075¹5,  K1 NIC  -1 Media Card Reader (optional) Thunderbolt™ 2 port via optional  , HP SpaceMouse Pro USB 3D   |
| HP ZR2440w 24-inch LED Backlit IPS Monitor, HP LP2475w Ž4-inch Widescreen LCD Monitor, HP ZR2240w 21.5-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP ZR2040w 20-inch LED Backlit IPS Monitor, HP DreamColor LP2480zx Professional Display, HP Z Display Z30i 30-inch IPS Display, HP Z Display Z27i 27-inch IPS Display, HP Z Display Z24i 24-inch IPS Display, HP Z Display Z23i 23-inch IPS Display Z23i 23-inch IPS Display Z22i 21.5-inch IPS Display  | Drive Bays  Expansion Slots  Available Graphics  Audio  Network  Ports  Remote Technology  Input Devices                         | 3 external 5.25-inch bays, 4 inter 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac NVIDIA® Tesla  Integrated Intel/Realtek HD ALC Dual integrated Intel GbE LAN; In Front: 2 USB 3.0, 1 USB 2.0 Rear: 2 USB 3.0, 4 USB 2.0 add-in PCIe card <sup>3,4</sup> Internal: 6 USB 2.0 ports ava HP Remote Graphics Software (R HP USB Optical 3-Button Mouse, Input, HP SpacePilot 3D USB Intel   | rnal 3.5-inch ress Gen3 x1 Il/x4 electrica decorrection and selection and selection are selected as the selection and selected as the selected | bays  6 (Available or alt; 1 Legacy P(  NVS™ 310, DIA® Quadro®  MD FirePro™ Kannal HP Thir  2 Controller; a standard, 1 4a, 1 audio in, be 2x5 header   | nly with 2nd CPU,  I  NVIDIA® NVS™ 3  K600, AMD Firef  W7000, NVIDIA® 40, NVIDIA® Quad  n USB Powered S  Optional Broadc  microphone in, 1 1 audio out, 1 m  s   | ; 1 PCI Expre  15, NVIDIA® N  Pro™ V3900  Quadro® 500  Quadro® Sync (GI  peakers  pem NIC; Optic  headphone of icrophone in   | ss Gen3 x16 mechanical  IVS <sup>M</sup> 510  00, NVIDIA® Quadro® K PU), Intel® Phi P3120 (G  onal Intel NIC; WLAN Intel  out, HP 14-in-1 Media Ca  1, 2 PS/2, 2 RJ-45 to intel  d & Mouse, HP USB Opti   | 5000, NVIDIA® Quadro® K6000<br>PU)<br>el 7260 802.11 a/b/g/n/ PCle s<br>ard Reader (optional), HP 15-in<br>egrated Gigabit LAN, 1 serial, 1   | D, NVIDIA® Tesla™ C2075¹5,  K1 NIC  -1 Media Card Reader (optional) Thunderbolt™ 2 port via optional , HP SpaceMouse Pro USB 3D  |
| Warranty <sup>16</sup> Limited three-year Mon-Fri 8-5 next business day, parts, labor and 24x7 phone support, terms and conditions may vary.  | Drive Bays  Expansion Slots  Available Graphics  Audio  Network  Ports  Remote Technology  | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac NVIDIA® Tesic Integrated Intel/Realtek HD ALC2 Dual integrated Intel GbE LAN; In Front: 2 USB 3.0, 1 USB 2.0 Rear: 2 USB 3.0, 4 USB 2.0 add-in PCIe card <sup>3,4</sup> Internal: 6 USB 2.0 ports ava HP Remote Graphics Software (R HP USB Optical 3-Button Mouse, Input, HP SpacePilot 3D USB Intel  | rnal 3.5-inch ress Gen3 x1 I/x4 electrics 1300, NVIDIA 10° 410, NVII 10° | bays  6 (Available or   | nly with 2nd CPU;<br>I<br>NVIDIA® NVS™ 3<br>K600, AMD Firef<br>W7000, NVIDIA®<br>40, NVIDIA® Quar<br>n USB Powered S<br>Optional Broadc<br>microphone in, 1<br>1 audio out, 1 m<br>s   | ; 1 PCI Expre  15, NVIDIA® N  15, NVIDIA® N  16   | ss Gen3 x16 mechanical IVS™ 510  OO, NVIDIA® Quadro® K PU), Intel® Phi P3120 (G  onal Intel NIC; WLAN Intel out, HP 14-in-1 Media Ca 1, 2 PS/2, 2 RJ-45 to intel d & Mouse, HP USB Opti USB Keyboard, HP USB  | 5000, NVIDIA® Quadro® K6000<br>PU)<br>el 7260 802.11 a/b/g/n/ PCIe s<br>ord Reader (optional), HP 15-in<br>grated Gigabit LAN, 1 serial, 1<br>cal 3-Button 2.9M OEM Mouse<br>Optical Mouse, HP USB 1000d  | D, NVIDIA® Tesla™ C2075¹5,  K1 NIC  -1 Media Card Reader (optional) Thunderbolt™ 2 port via optional  , HP SpaceMouse Pro USB 3D   |
|   | Drive Bays  Expansion Slots  Available Graphics  Audio  Network  Ports  Remote Technology  Input Devices  Dimensions (H x W x D) | 3 external 5.25-inch bays, 4 inte 2 PCI Express Gen3 x16; 1 PCI Exp 1 PCI Express Gen2 x8 mechanica Professional 2D: NVIDIA® NVST Entry 3D: NVIDIA® Quac Mid-range 3D: NVIDIA® Quac High-end 3D: NVIDIA® Quac NVIDIA® Testa Integrated Intel/Realtek HD ALCa Dual integrated Intel GbE LAN; In Front: 2 USB 3.0, 1 USB 2.0 Rear: 2 USB 3.0, 4 USB 2.0 add-in PCIe card <sup>3.4</sup> Internal: 6 USB 2.0 ports ava HP Remote Graphics Software (R HP USB Optical 3-Button Mouse, Input, HP SpacePilot 3D USB Intel 17.5 x 8.0 x 20.7 in (44.4 x 20.3 x 850W 88% Efficient wide-rangin HP DreamColor LP2480zx Profes HP ZR2440w 24-inch LED Backlit Backlit IPS Monitor, HP DreamCol | rnal 3.5-inch ress Gen3 x1 Il/x4 electrica de 300, NVIDIA ro® 410, NVII ro® 410, NVII ro® K2000 ro® K4000, A M K20c, NVII 62 Audio, op Gene TPM 1 , 1 IEEE 1394 0, 1 IEEE 1394 GS) HP USB Smar iigent Contro 52.5 cm) g, active Pow sional Displa IPS Monitor, or LP2480zx or LP2480zx   | bays  6 (Available or alt; 1 Legacy PC  NVS™ 310, DIA® Quadro®  MD FirePro™  MD FirePro™  MO FirePro™  Attional HP Thir  C Controller;  a standard, 1  4a, 1 audio in,  e 2x5 header  tCard CCID Ke  tler, HP PS/2 i  er Factor Corn  yy (24-inch dia  y Professional | nly with 2nd CPU;  I  NVIDIA® NVS™ 3  K600, AMD FireF  W7000, NVIDIA® 40, NVIDIA® Quan  USB Powered S  Optional Broadc  microphone in, 1  1 audio out, 1 m  s  yboard, HP Wirel (eyboard, HP PS),  rection or 1125W  agonal widescree 24-inch Widescre Display, HP Z Dis | ; 1 PCI Expre  15, NVIDIA® N  Pro™ V3900  Quadro® 50  dro® Sync (Gf  peakers  om NIC; Optic  headphone of icrophone in  ess Keyboarr 2 Mouse, HP  90% Efficier  an), HP ZR30  gen LCD Mon  splay Z301 301 | ss Gen3 x16 mechanical  IVS™ 510  00, NVIDIA® Quadro® K  PU), Intel® Phi P3120 (G  onal Intel NIC; WLAN Intel  out, HP 14-in-1 Media Ca  , 2 PS/2, 2 RJ-45 to intel  d & Mouse, HP USB Opti  'USB Keyboard, HP USB  int wide-ranging, active  w 30-inch S-IPS LCD Mo  itor, HP ZR2240w 21.5 | 5000, NVIDIA® Quadro® K6000 PU)  el 7260 802.11 a/b/g/n/ PCIe o ard Reader (optional), HP 15-in grated Gigabit LAN, 1 serial, 1  cal 3-Button 2.9M 0EM Mouse Optical Mouse, HP USB 1000d  Power Factor Correction spiritor, HP ZR2740w 27-inch LE i-inch LED Backlit IPS Monitor, | D, NVIDIA® Tesla™ C2075 <sup>15</sup> ,  <1 NIC  -1 Media Card Reader (optional) Thunderbolt™ 2 port via optional  , HP SpaceMouse Pro USB 3D pi Laser Mouse  ED Backlit IPS Monitor, HP ZR2040w 20-inch LED |

Screen images courtesy of Autodesk.

- \* 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/ for details.
- \*\* Not all features are available in all editions of Windows 8 and 8.1. Systems may require upgraded and/or separately purchased hardware, drivers, and/or software to take full advantage of Windows 8 and 8.1 functionality.
- \*\*\* This system is preinstalled with Windows 7 Pro 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. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.
- \*\*\*\* Each drive requires a PCIe x4 (minimum)
- 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.
- 2. 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.
- 3. 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.
- 4. Sold as an optional or add on feature.
- 5. Support for external displays as a standard feature through integrated processor-based graphics is dependent upon the particular workstation configuration; the actual number of displays supported will vary. An optional graphics solution will be required for the support of additional displays. Additional cables required. HD (high-definition) content required to view HD images.
- HP Remote Graphics Software requires Windows and an internet connection.
- 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. See intel.com/info/em64t for more information.
- $8. \quad \text{Intel's numbering is not a measurement of higher performance}. \\$
- The specifications shown in this column represent the following: (all core maximum turbo steps, one core maximum turbo steps). Turbo boost stepping occurs in 100 MT/s increments. Processors that do not have turbo functionality are denoted as N/A. Intel® Turbo Boost technology requires a PC with a processor with Intel® Turbo Boost capability. Intel® Turbo Boost performance varies depending on hardware, software, and overall system configuration. Please visit intel.com/technology/turboboost for more information.
- 10. Each processor supports up to 4 channels of DDR3 memory. To realize full performance at least 1 DIMM must be inserted into each channel.
- 11. 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
- 12. For hard drives and solid state drives, GB=1 billion bytes. TB=1 trillion bytes. Actual formatted capacity is less. Up to 36 GB is reserved for system recovery software.
- 13. 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.
- 14. 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.
- 15. NVIDIA Tesla C2075 requires the 1125W power supply
- 6. HP Care Pack Services extend service contracts beyond the standard warranties. Service starts from date of hardware purchase. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at <a href="hp.com/go/lookuptool">hp.com/go/lookuptool</a>. Additional HP Care Pack Services information by product is available at <a href="hp.com/go/carepack">hp.com/go/lookuptool</a>. Additional HP Care Pack Services information by product is available at <a href="hp.com/go/carepack">hp.com/go/lookuptool</a>. Additional HP Care Pack Services information by product is available at <a href="hp.com/go/carepack">hp.com/go/carepack</a>. Service levels and response times for HP Care Packs may vary depending on your geographic location.

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