HP ZBook Studio 16 inch G9 Mobile Workstation PC



Powerfully immersive. Perfectly sized

Be ready when inspiration strikes. Packed with professional performance in an incredibly sleek PC that comfortably fits in your bag, the ZBook Studio is engineered to get you in the zone and help you stay focused. Now you can build complex assemblies, render in real time or visualize data—from anywhere.



*Product image may differ from actual product

HP recommends Windows 11 Pro for business

Power to push the limits

 Push your workflow further with up to an Intel[®] Core[™] i9 CPU,^{1,2} NVIDIA RTX[™] A5500 or NVIDIA[®] GeForce RTX[™] 3080 Ti Laptop GPU,² and 64 GB RAM.² From 3D design to machine learning this pro grade PC delivers peak performance so you can work uninterrupted.

Immerse in your work

Unlock complete color accuracy and see more of your work with a 16:10 HP DreamColor display.³ Get
smooth motion for video editing with a 120Hz refresh rate.³ Customize your keyboard lighting and
highlight shortcuts with RGB per-key LED backlighting.⁴

Create and collaborate everywhere

 Follow inspiration wherever it strikes with a thin and light laptop that delivers the power to run the software you need on the go. Work and collaborate effectively from anywhere with up to an 12-hour battery life,⁵ AI noise cancellation⁶ and Wi-Fi 6E.^{7,8}

A work laptop you'll want to game on

- Work anywhere without compromising on performance or security with Windows 11¹⁰ powered by HP's collaboration and connectivity technology.
- Crank up your multi-tasking and productivity with up to Intel vPro[®] with 12th Gen Intel[®] Core[™] i9 processor^{1,2,11} designed to handle complex, multithreaded apps.
- Tackle your biggest projects with a choice of up to NVIDIA RTX[™] A5500 or NVIDIA[®] GeForce RTX[™] 3080 Ti Laptop GPU;² certified for pro apps.
- Keep cool under any workload with HP Vaporforce Thermals,¹² with new curved metal blades, that
 protect your workstation from overheating, so you can cut through your heaviest workloads with
 peak processing power.
- Blitz through multiple tasks and ditch external drives with up to 4 TB PCIe Gen4 NVMe storage^{2,13}
- Accelerate your workflow. Power through projects with up to 64 GB RAM¹⁴ for fast rendering, editing
 and visual effects performance.
- Get a fast and reliable connection in dense wireless environments with Wi-Fi 6E.^{7,8}
- Collaborate with confidence with advanced features like DNN Noise Suppression to suppress background noise for crisp, clear calls.¹⁵
- Personalize your laptop RGB lighting in one place. With Z Light Space software,⁹ you can customize
 your keyboard lighting with the RGB per-key LED backlighting.⁴ For commonly used software apps,
 use pre-loaded color-maps or create your own.
- Elevate your workflow with a VR-ready laptop. Develop lifelike content and transform how you
 design, train, and collaborate. And when paired with the HP Reverb G2 VR Headset, you get stunning
 immersion with full-resolution rendering.¹⁶
- Now with a 16:10 aspect ratio you get 11% more usable screen area than 16:9, for productivity and creative tasks. With more vertical screen space reduce the need to scroll and see more of your project without minimizing program menus or toolbars.
- Connect to everything you need with a wide-range of connectivity options: multiple USB Type-C[®] ports, mSD Card Reader, headphone/microphone combo jack and more.

HP ZBook Studio 16 inch G9 Mobile Workstation PC Specifications Table

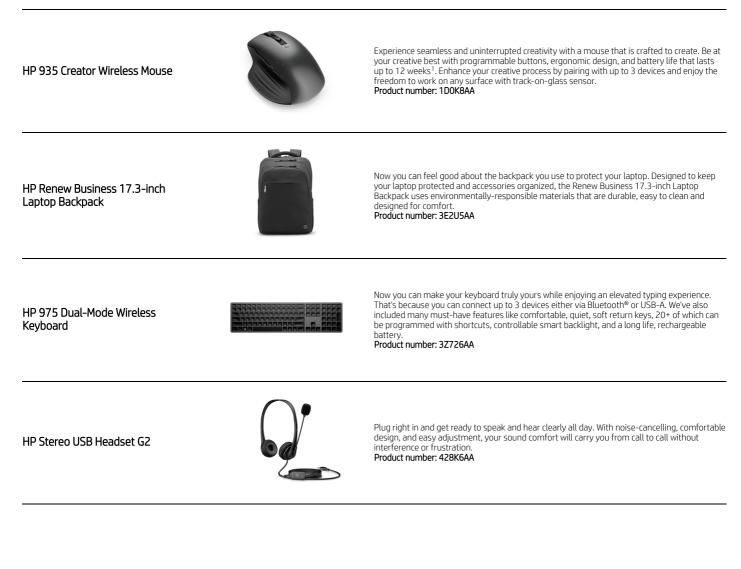


*Product image may differ from actual product

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Available Operating Systems	Windows 11 Pro – HP recommends Windows 11 Pro ¹ Windows 11 Home – HP recommends Windows 11 Pro for Business ¹ Windows 10 Pro (available through downgrade rights from Windows 11 Pro) ¹ Ubuntu 20.04 FreeDOS 3.0
Processor family ^{2,3,4,5,6}	12th Generation Intel® Core™ i7 processor; 12th Generation Intel® Core™ i9 processor
Available Processors ^{2,3,4,5,6}	Intel® Core™ i9-12900H with Intel® UHD Graphics (1.8 GHz E-core base frequency, 2.5 GHz P-core base frequency, up to 3.8 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads), supports Intel® vPro® Technology; Intel® Core™ i7-12800H with Intel® UHD Graphics (1.8 GHz E-core base frequency, up to 3.7 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, 2.4 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads), supports Intel® vPro® Technology; Intel® Core™ i7-12800H with Intel® UHD Graphics (1.8 GHz E-core base frequency, up to 3.7 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads), supports Intel® VPro® Technology
Maximum memory	64 GB DDR5-4800 non-ECC SODIMM ¹¹ Memory is SODIMM. Supports dual channel memory.
Memory slots	2 SODIMM; supports dual channel
Internal storage	256 GB up to 4 TB PCle [®] Gen4 x4 NVMe [™] M.2 SSD ¹⁰ up to 512 GB PCle [®] NVMe [™] M.2 SED SSD ¹⁰
Display size (diagonal, metric)	40.6 cm (16°)
Display	40.6 cm (16") diagonal, 4K WQUXGA (3840 x 2400), 120 Hz, IPS, anti-glare, 500 nits, 100% DCI-P3, HP DreamColor; 40.6 cm (16") diagonal, 4K WQUXGA (3840 x 2400), 0LED, multitouch-enabled, UWVA, BrightView, Corning [®] Gorilla [®] Glass 5, Low Blue Light, 400 nits, 100% DCI-P3; 40.6 cm (16") diagonal, WUXGA (1920 x 1200), IPS, anti-glare, 1000 nits, 72% NTSC, HP Sure View Reflect integrated privacy screen; 40.6 cm (16") diagonal, WUXGA (1920 x 1200), IPS, anti-glare, 1000 nits, 72% NTSC, HP Sure View Reflect integrated privacy screen; 40.6 cm (16") diagonal, WUXGA (1920 x 1200), IPS, anti-glare, 1000 nits, 72% NTSC, HP Sure View Reflect integrated privacy screen; 40.6 cm (16") diagonal, WUXGA (1920 x 1200), IPS, narrow bezel, anti- glare, Low Blue Light, 400 nits, low power, 100% sRGB ^{7,15,16,25,27,29}
Available Graphics	Integrated: Intel® Iris® X® Graphics ^{18,20,21,22,32} Discrete: NVIDIA® GeForce RTX™ 3060 (6 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3070 Laptop GPU (8 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3080 Laptop GPU (8 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3060 Laptop GPU (6 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3060 (6 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3070 Ti Laptop GPU (16 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3080 Ti (12 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3070 Ti Laptop GPU (8 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3070 Ti Laptop GPU (8 GB GDDR6 dedicated); NVIDIA® GeForce RTX™ 3080 Ti Laptop GPU (16 GB GDDR6 dedicated); NVIDIA RTX™ A1000 Laptop GPU (4 GB GDDR6 dedicated); NVIDIA RTX™ A4500 Laptop GPU (16 GB GDDR6 dedicated); NVIDIA RTX™ A5500 Laptop GPU (16 GB GDDR6 dedicated); NVIDIA RTX™ A2000 Laptop GPU (8 GB GDDR6 dedicated); NVIDIA RTX™ A3000 Laptop GPU (12 GB GDDR6 dedicated); AMD Radeon™ Pro 6600M Graphics (8 GB GDDR6 dedicated); NVIDIA RTX™ A5000 (8 GB GDDR6 GDDR6 dedicated); NVIDIA RTX™ 3080Ti (16 GB GDDR6 dedicated); NVIDIA RTX™ A1000 Laptop GPU (8 GB GDDR6 GDDR6 dedicated); NVIDIA RTX™ 3080Ti (16 GB DDR6 dedicated); NVIDIA RTX™ A1000 Laptop GPU (06 GB GDDR6 dedicated); NVIDIA RTX™ A5000 (16 GB GDDR6 GDDR6 dedicated); NVIDIA RTX™ 3080Ti (16 GB DDR6 dedicated); NVIDIA RTX™ A1000 (4 GB GDDR6 dedicated); NVIDIA RTX™ A5000 (8 GB GDDR6 dedicated); NVIDIA RTX™ A3000 (12 GB GDDR6 dedicated); NVIDIA RTX™ A4500 (16 GB GDDR6 dedicated); NVIDIA RTX™ A5000 (16 GB GDDR6 dedicated)); NVIDIA RTX™ A5000 (16 GB GDDR6 dedica
Audio	Audio by Bang & Olufsen, Quad-speaker audio (2 tweeters & 2 Quad woofers), 2 Top Facing Microphone dual array digital microphones, functions keys for volume up and down, combo microphone/headphone jack, HD audio with 200Hz Bass Roll off
Memory card device	1 microSD 7.1 media card reader
Ports and Connectors	Left side: 1 power connector; 1 headphone/microphone combo; 2 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge) ¹² ; Right side: 1 Super Speed USB Type-A 5Gbps signaling rate (charging); 1 SuperSpeed USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) ¹²
Input devices	HP Premium Quiet Keyboard – spill-resistant, full-size, backlit keyboard with drain and DuraKeys; HP RGB Keyboard - Full-size, per-key RGB backlit keyboard; HP RGB Z Command Keyboard – spill-resistant, full-size, backlit keyboard with drain and DuraKeys ²⁴ ; Clickpad with image sensor, supporting multi-touch gestures and taps;
Communications	WLAN: Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 M.2 combo, vPro®; Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 M.2 combo, non-vPro® ¹⁴ ;
Camera	720p HD IR camera ^{16,17}
Software	Bing search for IE11; Buy Office; HP Hotkey Support; HP Noise Cancellation Software; HP Performance Advisor; HP Support Assistant; Native Miracast support; HP Connection Optimizer; HP Privacy Settings; HP QuickDrop; Data Science Stack; HP Easy Clean; HP PC Hardware Diagnostics; HP ZCentral Remote Boost 2020 Software for Z workstation; Tile™ Application; Windows 10 Cloud Recovery Client; 1-month Adobe® free trial offer; HP Z Light Space; HP Camera & Super Resolution Software; 30313351555758
Available software	HP Smart Support ¹⁹
Security management	Absolute persistence module; HP Device Access Manager; HP Power On Authentication; Trusted Platform Module TPM 2.0 Embedded Security Chip; Master Boot Record security: Pre-boot authentication; Windows Defender; HP Manageability Integration Kit; HP BIOSphere Gen6; HP Sure Start Gen6; HP Sure Admin; HP Image Assistant; HP Tamper Lock; MS Bitlocker Encryption; Nano Security Lock Slot; HP Client Security Manager Gen7; HP Privacy Key; ^{8,34,35,37,38,39,40,43,49}
Security Software Licenses	HP Wolf Pro Security Edition ⁵⁶
Fingerprint reader	Fingerprint sensor (select models)
Management features	HP Power Manager ¹³
Power	HP Slim Smart 150 W External AC power adapter; HP Slim Smart 200 W External AC power adapter ⁴⁸
Battery type	HP Long Life 6-cell, 86 Wh polymer ^{26,47}
Battery recharge time	Supports battery fast charge: approximately 50% in 30 minutes
Dimensions	35.6 x 24.2 x 1.9 cm (non-touch); 35.6 x 24.2 x 1.8 cm (touch)
Weight	Starting at 1.73 kg; (Weight varies by configuration and components.)
Ecolabels	EPEAT® Gold registered in the U.S. ⁴⁵
Constant and the taxan at an a stift and and	
Sustainable impact specifications	Low Halogen ⁴⁶

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Accessories and services (not included)



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Messaging Footnotes

¹ Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance. ² Optional feature that must be configured at purchase. ³ HP DeramColor display with 120Hz refresh rate is an optional feature that must be configured at purchase.

¹ RGB keyboard is an optional, configurable feature. Available only in the US, UK, Germany and France only.

* NoB Keyboard is an optional, contigurable feature. Available only in the US, UK, Germany and France only. 5 Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark18 battery benchmark https://bapco.com/products/mobilemark-2018/ for additional details. 6 DNN Noise Reduction is delivered automatically through Windows update or can be downloaded from https://support.hp.com/us-en/drivers when available. Requires Windows 10 or higher, compatible with internal PC speakers, microphone and analog headsets. The DNN Noise Reduction setting can be configured through the Application HP Audio Control. 7 Wr-Fi 6E is an optional feature that must be configured a purchase. 8 Wr-Fi 6E requires a Wr-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wr-Fi 6E is supported.

⁶ Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
 ¹⁰ Not all features are evaluable 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 is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com
 ¹⁰ For full Intel[®] VPro[®] functionality, Windows 10 Pro 64 bit, a VPro supported processor, VPro enabled chipset, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality. Windows is automatically updated and enabled. Interview 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. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply one time for updates. See http://www.windows.com
 ¹⁰ 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 is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply one time for updates. See http://www.windows.com
 ¹¹ For full Intel[®] VPro[®] functionality, Windows 10 Pro 64 bit, a VPro supported processor, vPro enabled wired LAN and/or W

http://intel.com/vpro

http://ntel.com/vpro ¹² The HP custom vapor chamber (Z VaporForce) is only available on configurations with NVIDIA RTX[™] A3000 or NVIDIA GeForce RTX[™] 3060 laptop GPU and higher. ¹³ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB (for Windows) is reserved for system recovery software. ¹⁴ Up to 64 GB memory is an optional feature that must be configured at purchase. ¹⁵ DNN Noise Reduction is delivered automatically through Windows update or can be downloaded from https://support.hp.com/us-en/drivers. Requires Windows 10 or higher, compatible with internal PC speakers, microphone and analog headsets. The DNN Noise Reduction setting can be configured through the Application HP Audio Control.

Technical Specifications Footnotes

¹ 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 is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com.
² This system is preinstalled with Windows 10 Pro software and also comes with a license for Windows 11 Pro software and provision for recovery 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.
³ Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
⁴ Intel⁹ Turb Boost performance varies depending on hardware, software and overall system configuration. See http://www.intel.com/technology/turboboost for more information.
⁵ In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.intel.com/technology/turboboost for more information.

² In accordance with infection is support policy, the does not support the windows 2 of windows 7 operating system on products Conjugated with filler and AMD 7 in generation and forward processors of produce any windows 2 of windows 7 drivers on thrp//www.support.hp.com.
⁶ For full Intel® VPro® (Incitionality, Windows 10 Pro 64 bit or Windows 11 Pro 64 bit, a vPro supported processor, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional 3rd party software in order to run. See http://intel.com/yrro.
⁷ Actual brightness will be lower with HP Sure View or touch-screen.

HP Tamper Lock is an optional feature that must be configured at the factory and requires a supervisor password be established prior to use

⁸ IP Tamper Lock is an optional feature that must be configured at the factory and requires a supervisor password be established prior to use.
⁹ Pulticore is designed to improve performance of certain software polucitars. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.
¹⁰ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB (for Windows) is reserved for system recovery software.
¹¹ Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.
¹² Multi-function USB-C port works with Discrete Graphics and Intel(i) Iris Xe Graphics. Note: For Nvida Discrete Grap, to cause charactery benefromance and condition and customic charactery options with the easy-to-use HP Power Manager dashboard.
¹⁴ Manage and monitor your barrows cold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
¹⁵ UHD content remained to wire WI-Fi 6E is supported.
¹⁶ UHD content remained to wire WI-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
¹⁶ UHD content remained to wire WI-Fi 6E is supported.
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¹⁶ UHD content remained to wire WI-Fi 6E is supported.
¹⁶ UHD content remained to wire WI-Fi 6E is supported.
¹⁶ UHD content remained to wire WI-Fi 6

¹⁴ WI-Fi GE requires a WI-Fi GE router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. WI-Fi GE is backwards compatible with prior 802.11 specs. And available in countries where WI-Fi GE is supported.
 ¹⁵ UHD content required to view UHD images.
 ¹⁶ HD content required to view UHD images.
 ¹⁷ Mindows Hello face authentication utilizes a camera specially configured for near infrared (IR) imaging to authenticate and unlock Windows devices as well as unlock your Microsoft Passport.
 ¹⁸ Both UMA and Discrete configuration support 4 independent displays (both Intel and NVIDIA Graphic cards, UMA/DIS mode need to close lid or only 3 displays max are supported externally. Max. resolution = 8K@60Hz (Type-C output port using a Type C-to-DP adapter), 0R 4K @60Hz (DP1) & 2.5K @60Hz (DP2) & FHD (VGA) OR 4K @60Hz (on DP Port) & 4K @60Hz (Type-C output port using a Type C-to-DP adapter).
 ¹⁹ HP Smart Support automatically collects the telemetry necessary upon initial bot of the product to ellever device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Simart Support or for download, please visit http://www.hp.com/smart-support.
 ²⁰ USAC criste and on memory (UMA) uses part of the total system memory dedicated to video performance is not available for other use by other programs.

apply. VOID WHERE PROHIBITED OR RESTRICTED BY LAW. 59 MicroSD 7.1 media reader supports SD 4.0 cards at SD 3.0 speeds with any SD 7.0 host. SD 7.0 card availability is expected later in 2022

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