

HP EliteBook 650 15.6 inch G10 Notebook PC

Empowering the hybrid workforce

Simplify hybrid work with the cost-effective, highly secure, and easily managed HP EliteBook 650. The latest Intel® processor², a wide variety of configurable ports, and connectivity options allow easy adoption for use at home, in the office, or when traveling.

Ready for demanding workloads

Drive performance with the latest Intel®² processor in the HP EliteBook 650. This globally available and easily serviceable PC features long battery life and now has two USB Type-A (USB 3.2 Gen 1), one Thunderbolt™ 4 with USB4 Type-C® port, and 1 multifunction USB Type-C® port.

Protected by HP Wolf Security

HP Wolf Security for Business creates a hardware-enforced, always-on, resilient defense. From the BIOS to the browser, above, in, and below the OS, these constantly evolving solutions help protect your PC from modern threats.³

Make connections that matter

Take presenting in a hybrid work environment to the next level with audio and video¹⁷ features that enhance your collaboration experience. Enjoy the crystal-clear audio performance delivered by HP Dynamic Voice Leveling⁶ and HP AI Noise Reduction.⁶



*Product image may differ from actual product

Sustainability in action

Outer box packaging 100% sustainably sourced

This PC contains at least 30-percent post-consumer recycled plastic in the bezel, at least 50-percent post-consumer recycled plastic in the keycaps⁸, and the outer box packaging is 100-percent sustainably sourced.⁹



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Featuring

Easy battery management

Manage and monitor your battery's performance and condition and customize charging options with the easy-to-use HP Power Manager dashboard.⁷

Dual sensors for image clarity

The HD camera with temporal noise reduction lowers the effects of visual noise and pixelation. Backlight Adjustment includes dual image sensors, that balance contrast, background, and foreground lighting so you can capture all the details.⁶

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5MP IR Camera with HP Auto Frame

Move around a little without losing viewers' attention during video calls with optional HP Auto Frame.^{4,5}

All at your fingertips

A creative powerhouse that inspires. Take on big projects utilizing multiple applications with the latest Intel® processor, NVIDIA® GeForce RTX™ 2050 graphics, up to 64GB DDR4 memory and up to 2TB of storage.^{2,10,11}

Speed up the basics of IT management

Help speed up image creation and the management of hardware, BIOS, and security when managing devices through Microsoft Endpoint Manager with the HP Manageability Integration Kit.¹²

Crystal-clear speakers

HP Dynamic Voice Leveling automatically optimizes voice clarity within 3-meters of the PC. HP AI Noise Reduction uses noise-filtering technology to enhance audio conferencing experience even while wearing a mask.⁹

Automatic recovery from firmware attacks

Firmware attacks can completely devastate your PC. Stay protected with HP Sure Start Gen7, the self-healing BIOS that automatically recovers itself from attacks or corruption.¹³

Keep your PC's security protections in place

Stop unwanted changes to security settings and help limit the spread of malware with HP Sure Run Gen5 which identifies, quarantines, and provides reporting on attackers trying to kill processes.¹⁴

Recovery simplified

HP Sure Recover Gen5 ensures fast, secure, and automated recovery of the OS over LAN or Wi-Fi® from advanced malware attacks. End users can now pause or retry if the connection is lost and it's corporate image ready for fleet deployments.¹⁵

Browse confidently

Help protect your PC from websites and read-only Microsoft Office and PDF attachments with malware, ransomware, or viruses with hardware-enforced security from HP Sure Click.¹⁶

Background Adjustment

Keep a consistent look across all your videoconferencing apps with Background Adjustment that has two ways to mask your background. Set Background Blur or choose an image once in myHP instead of adjusting settings in multiple apps.⁶



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Technical specifications

Available Operating Systems	Windows 11 Pro ¹ Windows 11 Pro Education ¹ Windows 11 Home - HP recommends Windows 11 Pro for business ¹ Windows 11 Home Single Language - HP recommends Windows 11 Pro for business ¹ Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) ¹ Windows 10 Pro (available through downgrade rights from Windows 11 Pro) ^{1,2} FreeDOS
Processor family	13th Generation Intel® Core™ i7 processor 13th Generation Intel® Core™ i5 processor 13th Generation Intel® Core™ i3 processor
Available Processors ^{3,4,5}	Intel® Core™ i7-1355U (1.2 GHz E-core base frequency, 1.7 GHz P-core base frequency, up to 3.7 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 12 MB L3 cache, 2 P-cores and 8 E-core, 12 threads) Intel® Core™ i5-1335U (0.9 GHz E-core base frequency, 1.3 GHz P-core base frequency, up to 3.4 GHz E-core Max Turbo frequency, up to 4.6 GHz P-core Max Turbo frequency, 12 MB L3 cache, 2 P-cores and 8 E-core, 12 threads) Intel® Core™ i7-1370P (1.4 GHz E-core base frequency, 1.9 GHz P-core base frequency, up to 3.9 GHz E-core Max Turbo frequency, up to 5.2 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-core, 20 threads) Intel® Core™ i7-1365U (1.3 GHz E-core base frequency, 1.8 GHz P-core base frequency, up to 3.9 GHz E-core Max Turbo frequency, up to 5.2 GHz P-core Max Turbo frequency, 12 MB L3 cache, 2 P-cores and 8 E-core, 12 threads) Intel® Core™ i5-1350P (1.4 GHz E-core base frequency, 1.9 GHz P-core base frequency, up to 3.5 GHz E-core Max Turbo frequency, up to 4.7 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores and 8 E-core, 16 threads) Intel® Core™ i5-1345U (1.2 GHz E-core base frequency, 1.6 GHz P-core base frequency, up to 3.5 GHz E-core Max Turbo frequency, up to 4.7 GHz P-core Max Turbo frequency, 12 MB L3 cache, 2 P-cores and 8 E-core, 12 threads) Intel® Core™ i3-1315U with Intel® UHD Graphics (0.9 GHz E-core base frequency, 1.2 GHz P-core base frequency, up to 3.3 GHz E-core Max Turbo frequency, up to 4.5 GHz P-core Max Turbo frequency, 10 MB L3 cache, 2 P-cores and 4 E-core, 8 threads)
Maximum memory	64 GB DDR4-3200 MHz RAM; (Transfer rates up to 3200 MT/s); ⁷ Both slots are accessible/upgradeable by IT or self-maintainers only. Supports dual channel memory.
Memory slots	2 SODIMM
Internal storage	1 TB up to 2 TB PCIe® NVMe™ M.2 SSD TLC ⁸ up to 1 TB PCIe® NVMe™ M.2 SED SSD TLC ⁸ up to 512 GB PCIe® Gen4x4 NVMe™ M.2 SED SSD TLC ⁸ up to 512 GB PCIe® Gen4x4 NVMe™ M.2 SSD TLC ⁸ 256 GB up to 512 GB PCIe® NVMe™ M.2 SSD ⁸ up to 256 GB PCIe® NVMe™ M.2 SED SSD ⁸ up to 256 GB PCIe® NVMe™ Value M.2 SSD ^{8,41}
Display size (diagonal, metric)	39.6 cm (15.6")
Display	39.6 cm (15.6") diagonal, FHD (1920 x 1080), touch, IPS, anti-glare, 250 nits, 45% NTSC; 39.6 cm (15.6") diagonal, FHD (1920 x 1080), micro-edge, anti-glare, 250 nits, 45% NTSC; 39.6 cm (15.6") diagonal, HD (1366 x 768), micro-edge, anti-glare, 250 nits, 45% NTSC; 39.6 cm (15.6") diagonal, FHD (1920 x 1080), IPS, narrow bezel, anti-glare, 400 nits, 100% sRGB with HP Eye Ease ^{13,15,16,17}
Available Graphics	Integrated: Intel® UHD Graphics; Intel® Iris® X® Graphics ^{12,13} Discrete: NVIDIA® GeForce RTX™ 2050 Laptop GPU (4 GB GDDR6 dedicated) ⁴² (Support CUDA, Optimus, PhysX, GPU Boost 2.0.)
Audio	Dual stereo speakers, dual array microphones
Wireless technologies	Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card, vPro®; Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card, non-vPro® ^{9,10} (Compatible with Miracast-certified devices.) Near Field Communication (NFC) module
Ports and connectors	1 Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4); 1 USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4); 2 USB Type-A 5Gbps signaling rate (1 power); 1 AC power; 1 HDMI 2.1; 1 stereo headphone/microphone combo jack; 1 RJ-45; (HDMI cable sold separately.); Optional Ports: 1 Smartcard reader (optional); 1 External Nano SIM slot for WWAN ¹⁸
Input devices	HP Premium Keyboard - spill resistant, optional backlit keyboard ¹⁴ ; Clickpad with multi-touch gesture support
Communications	Intel® I219-LM GbE LOM, vPro®; Intel® I219-LM GbE LOM, non-vPro® ¹¹ ; Intel® XMM™ 7560 LTE Advanced Pro; Qualcomm® 9205 LTE Cat-M1
Camera	720p HD camera with temporal noise reduction (select models); IR Camera (select models) ^{13,18}
Software	HP Connection Optimizer; HP Hotkey Support; HP Power Manager; myHP; HP Privacy Settings; HP Notifications; HP PC Hardware Diagnostics Windows; HP Services Scan; HP Smart Support (download) Buy Office (Sold separately) ^{20,21,38,57,19}
Security management	Absolute persistence module; HP Secure Erase; HP Sure Click; HP Sure Sense; BIOS Update via Network; HP Sure Admin; HP BIOSphere Gen6; HP Client Security Manager Gen7; TPM 2.0 embedded security chip (Common Criteria EAL4+ and FIPS 140-2 Level 2 Certified); HP Sure Start Gen7; HP Wake on WLAN; HP Tamper Lock; HP Sure Run Gen5; HP Sure Recover Gen5; Secured-Core PC Enable
Security Software Licenses	HP Wolf Pro Security Edition ⁵⁶



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Management features	HP Client Management Script Library (download); HP Driver Packs (download); HP Client Catalog (download); HP Manageability Integration Kit Gen4 (download); HP Image Assistant Gen5 (download); HP Patch Assistant (download); HP Cloud Recovery; HP Connect for Microsoft Endpoint Manager ^{22,23,24}
Power	HP Smart 65 W External AC power adapter; HP Smart 65 W EM External AC power adapter; HP Smart 45 W External AC power adapter; HP Smart 45 W 2-prong External AC power adapter; HP Smart 65 W USB Type-C [®] adapter; HP Smart 45 W USB Type-C [®] adapter ³⁷
Battery type	HP Long Life 3-cell, 42.75 Wh polymer ³⁶ ; Battery is internal and not replaceable by customer. Serviceable by warranty.
Battery life	Up to 13 hours and 15 minutes ⁴³
Dimensions	35.94 x 23.39 x 1.99 cm; 6.9 x 52 x 30.5 cm (Package)
Weight	Starting at 1.78 kg; (Weight will vary by configuration. Does not include power adapter.)
Ecolabels	EPEAT [®] Gold registered in the U.S.; TCO Certified ³⁹
Energy star certified	ENERGY STAR [®] certified
Certification and compliance	CCC; CECP; GS Mark
Sustainable impact specifications	Low Halogen ⁴⁰
Warranty	1-year and 3-year limited warranties and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty. Refer to http://www.hp.com/support/batterywarranty/ for additional battery information. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/cpc .



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Footnotes

Messaging Footnotes

- ² 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.
- ³ HP Wolf Security for Business requires Windows 10 Pro and higher, includes various HP security features and is available on HP Pro, Elite, Workstation, and RPOS products. See product details for included security features and OS requirements.
- ⁴ Optional feature must be configured at time of purchase.
- ⁵ HP Auto Frame available only with optional 5MP camera that must be configured at purchase. Requires the myHP application and Windows OS.
- ⁶ Requires the myHP application and Windows OS.
- ⁷ HP Power Manager requires Windows 10 and higher and is available from the Microsoft store.
- ⁸ Recycled plastic content percentage is based on the definition set in the IEEE 1680:2018 standard.
- ⁹ 100% outer box packaging made from sustainably sourced certified and recycled fibers. Fiber cushions made from 100% recycled wood fiber and organic material. Any plastic cushions are made from >90% recycled plastic.
- ¹⁰ Sold separately or as an optional feature.
- ¹¹ Sold separately or as an optional feature. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows) of disk is reserved for system recovery software.
- ¹² HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
- ¹³ HP Sure Start Gen7 is available on select HP PCs and requires Windows 10 Pro and higher.
- ¹⁴ HP Sure Run Gen5 is available on select HP PCs and requires Windows 10 Pro and higher.
- ¹⁵ HP Sure Recover Gen5 is available on select HP PCs and requires Windows 10 Pro and higher and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data. Network based recovery using Wi-Fi is only available on PCs with Intel Wi-Fi Module.
- ¹⁶ HP Sure Click requires Windows 10 and higher. See https://bit.ly/2PrLT6A_SureClick for complete details.
- ¹⁷ HP conferencing features require Windows and the latest myHP app, available over the air or for download via sofpag on the HP Support website. Planned availability in spring 2023.

Specification 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 computer is preinstalled with Windows [insert Product version/edition name] Home Single Language.
- ³ 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.
- ⁴ Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
- ⁵ Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost for more information.
- ⁶ 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.support.hp.com>.
- ⁷ 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.
- ⁸ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10 and 11) is reserved for system recovery software.
- ⁹ Wi-Fi 6E requires a Wi-Fi 6E router, and Windows 11, 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 Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.
- ¹¹ 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.
- ¹² Intel® Iris® Xe Graphics capabilities require system to be configured with Intel® Core™ i5 or i7 processors and dual channel memory. Intel® Iris® Xe Graphics with Intel® Core™ i5 or 7 processors and single channel memory will only function as UHD graphics.
- ¹³ HD content required to view HD images.
- ¹⁴ Backlit keyboard is an optional feature.
- ¹⁵ Resolutions are dependent upon monitor capability, and resolution and color depth settings.
- ¹⁶ HP Sure View Reflect integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.
- ¹⁷ Actual brightness will be lower with touchscreen or Sure View.
- ¹⁸ Sold separately or as an optional feature.
- ¹⁹ Microsoft Office sold separately and requires Internet access for activation.
- ²⁰ HP Support Assistant requires Windows and Internet access.
- ²¹ HP Services Scan is provided with Windows Update on select products and will check entitlement on each hardware device to determine if an HP TechPulse-enabled service has been purchased, and will download applicable software automatically. HP TechPulse is a telemetry and analytics platform that provides critical data around devices and applications. For full system requirements or to disable this feature, please visit <http://www.hpdaas.com/requirements>. Not applicable in China.
- ²² HP Connect for Microsoft Endpoint Manager is available from the Azure Market Place for HP Pro, Elite, Z and Point-of-Sale PCs managed with Microsoft Endpoint Manager. Subscription to Microsoft Endpoint Manager required and sold separately. Network connection required.
- ²³ HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
- ²⁴ HP Patch Assistant available on select HP PCs with the HP Manageability Kit that are managed through Microsoft System Center Configuration Manager. HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
- ²⁵ HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
- ²⁶ HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise OS25. HP Sure Run Gen5 is available on select HP PCs and requires Windows 10 and higher.
- ²⁷ HP Sure Run Gen5 is available on select HP PCs and requires Windows 10 and higher.
- ²⁸ HP Sure Recover is available on HP Elite PCs with 8th generation Intel® or AMD processors and requires an open, wired network connection. You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Does not support platforms with Intel® Optane™.
- ²⁹ HP Sure Start Gen7 is available on select HP PCs and requires Windows 10 and higher.
- ³⁰ HP Client Security Manager Gen7 requires Windows and is available on the select HP Elite and Pro PCs.
- ³¹ HP BIOSphere Gen6 features may vary depending on the platform and configuration.
- ³² HP Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.
- ³³ Absolute firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: <https://www.absolute.com/about/legal/agreements/absolute/>
- ³⁴ Secured-Core PC Enable requires an Intel® vPro™, AMD Ryzen™ Pro processor or Qualcomm® processor with SD850 or higher and requires 8 GB or more system memory. Secured-core PC is enabled from the factory.
- ³⁵ HP Fingerprint sensor is an optional feature that must be configured at purchase.
- ³⁶ Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.
- ³⁷ Availability may vary by country.
- ³⁸ HP Power Manager requires Windows 10 and higher and can be downloaded from the Microsoft Store.
- ³⁹ Based on US EPEAT® registration according to IEEE 1680:2018 EPEAT®. Status varies by country. Visit www.epeat.net for more information.
- ⁴⁰ External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
- ⁴¹ Secondary SSD slot (M.2 2230 form factor; Optional) is used for data storage only, not used for OS deployment, and is only available with non-WWAN base Unit AND Primary M.2 storage.
- ⁴² Integrated graphics depends on processor. NVIDIA® Optimus™ technology requires an Intel processor, plus an NVIDIA® GeForce® discrete graphics configuration and is available on Windows 10 Pro OS or higher. With NVIDIA® Optimus™ technology, full enablement of all discrete graphics video and display features may not be supported on all systems (e.g. OpenGL applications will run on the integrated GPU or the APU as the case may be).
- ⁴³ Windows MM18 battery life will vary depending on various factors including 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 www.bapco.com for additional details.
- ⁴⁴ HP Wolf Pro Security Edition (including HP Sure Click Pro and HP Sure Sense Pro) is available preloaded on select SKUs and, depending on the HP product purchased, includes a paid 1-year or 3-year license. The HP Wolf Pro Security Edition software is licensed under the license terms of the HP Wolf Security Software - End-User license Agreement (EULA) that can be found at: https://support.hp.com/us-en/document/ish_3875769-3873014-16 as that EULA is modified by the following: "7. Term. Unless otherwise terminated earlier pursuant to the terms contained in this EULA, the license for the HP Wolf Pro Security Edition (HP Sure Sense Pro and HP Sure Click Pro) is effective upon activation and will continue for either a twelve (12) month or thirty-six (36) month license term ("Initial Term"). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Wolf Pro Security Edition from HP.com, HP Sales or an HP Channel Partner, or (b) continue using the standard versions of HP Sure Click and HP Sure Sense at no additional cost with no future software updates or HP Support."
- ⁴⁷ HP Smart Support requires HP TechPulse to be installed. For more information about how to enable or to download HP Smart Support, please visit <http://www.hp.com/smart-support>.

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