

OMEN MAX 16 inch Gaming Laptop

PC 16-ah0043dx



Built to break limits

Throttle less and carry more with the latest Intel® Core™ Ultra processor, next-gen NVIDIA® graphics, and a thermal architecture that can actually keep up with your gameplay.

Product overview

- **Performance you control:** Push your new Intel® Core™ Ultra processor and next-gen NVIDIA® RTX™ graphics farther and longer than ever before with our new Unleashed Mode, which allows you to manually overclock your device. We also have OMEN AI that provides personalized settings improvements so you can maximize your FPS without all the hassle.
- **Put your throttling on ice:** Introducing OMEN Tempest Cooling Pro, a thermal architecture that actually keeps up with your laptop's power potential. A vapor chamber and liquid metal coating on both the CPU and GPU help maintain maximum performance, while our new OMEN Fan Cleaner keeps your internals dust-free without any maintenance on your part.
- **Instant Pair with HyperX:** Free up your ports. Seamlessly connect up to three different compatible HyperX products without the need of a dongle.
- **Light the way you play:** With an RGB per-key lattice-less keyboard and our first ever RGB light bar, this is the most customizable OMEN laptop yet. Whether you want to match your lighting to your key bindings or just want to create a cool vibe, you can personalize it all in Light Studio through OMEN Gaming Hub.

Key specifications

- **Operating system:** Windows 11 Home⁽¹⁾
- **Processor:** Intel® Core™ Ultra 9 275HX^(2b)
- **NPU:** Intel® AI Boost (13 NPU TOPS)^(6c)
- **Display:** 16-inch diagonal, WQXGA (2560 x 1600), OLED, 48-240 Hz, 0.2 ms response time, UWVA, edge-to-edge glass, micro-edge, Low Blue Light
- **Memory:** 32 GB DDR5-5600 MT/s (2 x 16 GB)
- **Internal storage:** 2 TB PCIe® Gen4 NVMe™ Performance M.2 SSD⁽¹⁾
- **Graphics:** NVIDIA® GeForce RTX™ 5080 Laptop GPU⁽¹³⁾
- **Sound:** HyperX with dual speakers; DTS: X® Ultra
- **Battery life:**
 - Up to 4 hours and 45 minutes (mixed usage)^(85a)
 - Up to 8 hours and 30 minutes (video playback)⁽⁷⁵⁾
 - Up to 5 hours (wireless streaming)⁽⁸⁰⁾
- **Wireless:** Wi-Fi 7 (2x2)^(19d) and Bluetooth® 5.4 wireless card^{(25a)(26)}
- **Security:** Camera privacy shutter
- **Camera:** HP True Vision 1080p FHD IR camera with temporal noise reduction and integrated dual array digital microphones^{(89)(89b)}
- **Product weight:** 6.1 lb⁽⁷⁶⁾
- **Keyboard:** Full-size, per key RGB backlit, shadow black keyboard with numeric keypad and NKRO Anti-Ghosting Key technology

Product features

- **Get a fresh perspective with Windows 11:** From a rejuvenated Start menu, to new ways to connect to your favorite people, news, games, and content—Windows 11 is the place to think, express, and create in a natural way.⁽¹⁾
- **Microsoft Copilot:** Kickstart your creativity and productivity with Microsoft Copilot. Complements your capabilities and creativity with intelligent assistance and relevant answers. And now with the Copilot key, you can access this AI-powered intelligent assistant with a single press of a button.⁽⁴¹⁾
- **Desktop-level performance, anywhere:** Level up your PC with advanced performance, enhanced AI, and a CPU designed to defy expectations.
- **NVIDIA® G-SYNC™:** This technology synchronizes GPU and display refresh rates for sharp, stutter-free gameplay.
- **Game changer:** Powered by NVIDIA® Blackwell, GeForce RTX™ 5080 Laptop GPU brings game-changing AI capabilities to gamers and creators.
- **WQXGA resolution display:** Wide Quad Extended Graphics Array is a display resolution of 2560x1600 pixels with a 16:10 aspect ratio.⁽²⁰⁾
- **VESA DisplayHDR 400 True Black Certification:** A VESA DisplayHDR True Black certified display with pixel dimming that presents true black color, high contrast, and low blue light that's easier on your eyes.
- **OLED display:** Get richer contrast and enhanced color depth while consuming less power.

Additional product features

- **DCI-P3 color space:** Get deeper hues and more accurate colors with a wider color gamut than sRGB and that more closely represents colors as they are in the real world.
- **Eyesafe® Certified display:** Protects your eyes from harmful blue light without distorting colors to reduce eyestrain when working for long periods of time.
- **LPDDR5x RAM:** Experience speedy and responsive performance with the power efficient LPDDR5X memory. Designed to support higher data rates with less latency, plus faster file transfers and application load.
- **HP Fast Charge:** Go from 0 to 50% charge in approximately 30 minutes.⁽⁷²⁾
- **Wi-Fi 7 and Bluetooth® 5.4 wireless card:** Stay connected on the go at warp speed. Quantum leap in wireless performance - all-new levels of increased speed and reduced latency with Wi-Fi 7.^{(19d)(25a)(26)}
- **HP True Vision FHD IR camera:** Video chat in vibrant clarity with Full HD resolution, even in low light, with the added security of Windows Hello for a safer login experience.⁽⁸⁹⁾
- **PCIe® NVMe™ Performance M.2 SSD:** With high-speed data transfer, the PCIe® Gen4 NVMe™ Performance M.2 SSD offers lightning fast speed and efficient storage.
- **Audio tuned by HyperX:** Immerse yourself in the sweet sounds of audio mixed and tuned by HyperX.
- **HP Audio Boost:** Smart Amp technology reaches the full performance while preserving sound quality.
- **Xbox Game Pass Premium 2-month trial:** Enjoy 2 months of Xbox Game Pass Premium. Free with your new HP Laptop. Access a library of legendary, high-quality games, get exclusive in-game perks, partner discounts, and earn points annually with Xbox Rewards.⁽⁶⁰⁾

Product design

- **New OMEN Cryo Compound:** Our upgraded hybrid material, which is applied to both the CPU and GPU, includes all the heat dissipation benefits of traditional liquid metal with increased viscosity for improved device longevity
- **Camera shutter:** Ensure your privacy with a visible shutter that turns off your PC's camera.
- **88.8% screen to body ratio:** Revolutionize your display and see more of what you love with this slim bezel design. Enjoy an immersive multimedia experience with a maximized viewing area.
- **Per-key RGB keyboard:** RGB per-key LED backlighting customization and N-key rollover anti-ghosting technology to never miss a key.

Created with the planet in mind

HP is dedicated to driving progress toward a more sustainable future and making responsible choices for the environment and our customers. We are innovating new ways to reduce the amount of materials in our products and packaging—and to use more recycled materials in their design. Together we can make a difference.

- Built with the environment in mind, this laptop is designed using sustainable materials like:
 - Ocean-bound plastic in bezel^(63c)
 - Top cover and base contain recycled metal^(63d)
- HP's outer boxes and fiber cushions used in packaging are 100% sustainably sourced and recyclable^(63e)

Warranty and support

Our Customer Support Team consistently provides quick, responsive assistance in the U.S., Canada and Latin America.

Included with your product:

- **HP's Hardware Limited Warranty:** Full warranty details are included with your product.
- **Technical Support for Software & initial set-up:** Warranty details are included with your product.

Support Options:

- **HP Support Assistant - HPSA:** Optimized to enhance your support experience. Help for your PC and HP printers whenever you need it.⁽⁵⁶⁾
- **Online Support:** For technical support with this product, visit HP Customer Support <http://support.hp.com>.⁽⁹⁾
- **Social Media Support:** To find solutions, ask questions, and share tips, join us on the HP Support Community at community.hp.com, on X at x.com/HPSupport, and Facebook at facebook.com/HPSupport.⁽⁹⁾



Specifications

Operating system	• Windows 11 Home ⁽¹⁾
Processor	• Intel® Core™ Ultra 9 275HX ^(2a) • 24-Core • Intel® AI Boost (13 NPU TOPS) ^(6c)
Processor speed	• Up to 5.4 GHz with Intel® Turbo Boost Technology ^(2g)
Processor cache	• 36 MB L3 cache
Memory	• 32 GB DDR5-5600 MT/s (2 x 16 GB)
Accessible memory slots	• 2
Video graphics	• NVIDIA® GeForce RTX™ 5080 Laptop GPU (16 GB GDDR7 dedicated) ⁽¹³⁾
Internal storage	• 2 TB PCIe® Gen4 NVMe™ Performance M.2 SSD ⁽¹⁵⁾
Finish and features	• Top cover: shadow black metal with a sandblasted finish • Keyboard deck: shadow black • Logo: black chrome • Light bar: RGB
Camera	• HP True Vision 1080p FHD IR camera with temporal noise reduction and integrated dual array digital microphones ⁽⁵⁹⁾⁽⁶⁰⁾
Display	• 16-inch diagonal, WQXGA (2560 x 1600), OLED, 48-240 Hz, 0.2 ms response time, UWVA, edge-to-edge glass, micro-edge, Low Blue Light, SDR 400 nits, HDR 500 nits, 100% DCI-P3 ⁽²⁰⁾ • Variable Refresh Rate support • NVIDIA® G-SYNC® support
Screen to body ratio	• 88.8% ⁽⁶⁰⁾
Network card	• Integrated 10/100/1000/2500 GbE LAN ⁽²¹⁾
Wireless	• Wi-Fi 7 (2x2) ^(19d) and Bluetooth® 5.4 wireless card ^{(25a)(26)}
Sound	• HyperX with dual speakers • DTS:X® Ultra
Integrated keyboard	• Full-size, per key RGB backlit, shadow black keyboard with numeric keypad and NKRO Anti-Ghosting Key technology • HP Imagedpad
External notebook ports	• 2 Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery 3.1, DisplayPort™ 2.1, HP Sleep and Charge) ⁽⁴²⁾⁽⁴⁸⁾⁽⁵⁰⁾⁽⁵¹⁾⁽⁶⁴⁾ • 2 USB Type-A 10Gbps signaling rate • 1 RJ-45 • 1 Headphone/microphone combo • 1 AC Smart pin • 1 HDMI 2.1
Dimensions	• Unpackaged: 14.04 in (W) x 10.59 in (D) x 0.9 in (front) - 0.98 in (rear) (H) • Disclaimer: Rear height is measured without the bump out (0.12 in) • Packaged: 16.85 in (L) x 3.70 in (W) x 13.07 in (H)
Weight	• Unpackaged: 6.1 lb ⁽⁶²⁾ • Packaged: 10.45 lb
Security	• Camera privacy shutter
Power	• 6-cell, 83 Wh Li-ion polymer battery ⁽²¹⁾ • 330 W AC power adapter

Learn more at hp.com

⁽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>. ^(2a) 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. 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. Intel Core, Celeron, Iris X®, Intel logo and the Intel Inside logo are trademarks of Intel Corporation in the U.S. and other countries. ^(2b) Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See [intel.com/technology/turboboost](https://www.intel.com/technology/turboboost) for more information. GHz refers to internal clock speed of the processor. Other factors besides clock speed may impact system and application performance. ^(6c) Features and software that require a NPU may require software purchase, subscription or enablement by a software or platform provider, and third-party software may have specific configuration or compatibility requirements. Potential NPU inferring performance varies by use, configuration, software and other factors. ⁽⁸⁾ McAfee is preinstalled on your PC and an account is required for activation. Subscription renewal required after trial period. VPN feature is not available in India, China, Syria or North Korea. McAfee and the McAfee logo are trademarks or registered trademarks of McAfee, Inc. in the United States and other countries. ⁽⁹⁾ Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. ⁽¹³⁾ ©2022 NVIDIA Corporation. NVIDIA, the NVIDIA logo, GeForce, and GeForce RTX are registered trademarks and/or trademarks of NVIDIA Corporation in the United States and other countries. All other trademarks and copyrights are the property of their respective owners. ⁽¹⁵⁾ Actual formatted capacity is less. Portion of internal storage is reserved for preloaded content. ^(19d) Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows 11 OS, compatible processor, and separately purchased Wi-Fi 7 router to support backwards compatibility with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported. The specification for 802.11BE is a draft specification and is not final. If the final specification differs from the draft specification, it may affect the ability of the device to communicate with other 802.11BE devices. ⁽²⁰⁾ All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. ⁽²¹⁾ 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. ⁽²²⁾ 100GB of free online storage for 90 days from date of registration. For complete details and terms of use, including cancellation policies, visit the website at dropbox.com. Internet service required and not included. ⁽²³⁾ HP BIOS Protection works with Windows 11 that ships with your PC. ^(25a) Bluetooth® 5.4 operation requires Microsoft OS/Chrome OS support. Until Microsoft OS/Chrome OS support is available, Bluetooth® 5.4 will function as Bluetooth® 5.3 or lower. ⁽²⁶⁾ Bluetooth® is a trademark owned by its proprietor and used by HP Inc. under license. ⁽²⁹⁾ Actual speeds may vary. ⁽⁴⁰⁾ Percent of active plus nonactive viewing area to active viewing area plus border. Measure with lid vertical to the desk. ⁽⁴¹⁾ Copilot key feature availability varies by market, see aka.ms/keysupport. Copilot is NOT available in China, Russia, Belarus, and embargoed regions Cuba, Iran, North Korea, Crimea. ⁽⁴²⁾ USB Type-C® and USB-C® are trademarks of USB Implementers Forum. ⁽⁴⁸⁾ For optimal performance and battery chargeability while gaming and rendering, use the power adapter that ships with the PC. You can use the 100W/20V Type-C adapter or power bank when running light loading tasks. System-off charging is only supported on 20V Type-C adapter or power bank. ⁽⁵⁰⁾ DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. ⁽⁵¹⁾ Thunderbolt is a trademark of Intel Corporation or its subsidiaries in the U.S. and/or other countries. ⁽⁵³⁾ Call 1.800.474.6836 or support.hp.com for more information on Care Packs available after standard warranty expires. After standard warranty expires, an incident fee may apply. ⁽⁵⁴⁾ For more information visit hp.com/go/hpsupportassistant. (Link will vary outside of the U.S.) HP Support Assistant is only available on Windows-based PCs. Internet connection required for updating and connecting to HP Support. ⁽⁶⁰⁾ Subscription continues automatically at regular monthly price unless cancelled. Subject to <https://www.xbox.com/legal/subscription-terms>. Benefits vary by Xbox Game Pass plan. Game library and in-game benefits vary over time, by region, device, and Xbox Game Pass plan. Game must be installed to access in-game benefits. For a list of cloud and non-cloud markets and supported regions, visit: xbox.com/regions. Terms apply, see xbox.com/gamepass for more. ^(63a) Percentage of ocean-bound plastic contained in each component varies by product. ^(63b) Percentage of recycled metal varies by product. ^(63c) 100% outer box/corrugate cushion packaging made from sustainably sourced certified and recycled fibers. Fiber cushions made from 100% recycled wood fiber and organic material. Excludes plastic bags and plastic foam sheeting. ⁽⁶⁴⁾ For best results with HP Sleep and Charge, use a USB charging protocol standard cable or cable adapter with an external device. ⁽⁷²⁾ Recharges your battery up to 50% within 30 minutes when the system is off using "shut down" command, using HP adapter provided with the notebook or recommended power adapter disclosed in specifications (see <https://store.hp.com>). After charging has reached 50% capacity, charging speed will return to normal speed. Charging time may vary +/- 10% due to system tolerance. ⁽⁷⁵⁾ Battery life tested by HP using continuous FHD video playback, 1080p (1920x1080) resolution, 200 nits brightness, system audio level as image default, player audio level at 100%, played full-screen from local storage, headphone attached or through speaker (if no audio jack port), wireless on but not connected. Actual battery life will vary depending on configuration and maximum capacity will naturally decrease with time and usage. ⁽⁷⁶⁾ Weight and system dimensions may fluctuate due to configuration and manufacturing variances. ^(80a) Battery life tested by HP using continuous Netflix video playback, Microsoft Edge Browser, 200 nits brightness, system audio level as image default, headphone attached or through speaker (if no audio jack port), played full-screen, wireless on. Actual battery life will vary depending on configuration and maximum capacity will naturally decrease with time and usage. ^(85a) MobileMark 25 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 [bapco.com/products/mobilemark-25/](https://www.bapco.com/products/mobilemark-25/) for additional details. ^(88a) Offer available worldwide (excluding China and embargoed countries or other countries identified as restricted by applicable law or regulation) to new and existing subscribers who are 18+. Click on the Adobe icon in the start menu to redeem a 1-month free trial membership for Select Adobe software. The software is tied to the device and is not transferable. If you would like to sign up for an auto-renewing subscription, you can provide your payment method at sign-up. By adding a payment method, your subscription will automatically renew at the then current rate on your renewal date until you cancel. If you cancel before the end of the one-month free trial, you won't be charged. You can cancel your subscription anytime via your Adobe Account page or by contacting Customer Support. Please see current prices for Adobe products available in this offer. Offer not available to Education, OEM, or volume licensing customers. Subject to availability where the recipient resides. Additional terms and conditions may apply. VOID WHERE PROHIBITED OR RESTRICTED BY LAW. ⁽⁸⁹⁾ Features may require software or other 3rd party applications to provide the described functionality. Internet service required and not included. ^(89b) Camera resolution refers to the image sensor active pixels. The actual image capture pixels and aspect ratio depend on the app selected. Actual product may vary from image shown on datasheet. © Copyright 2025 HP Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing shall be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. 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Battery life	• Up to 4 hours and 45 minutes (mixed usage) ^(65a) • Up to 8 hours and 30 minutes (video playback) ⁽⁷⁵⁾ • Up to 5 hours (wireless streaming) ⁽⁸⁰⁾
Warranty and support	• 1-year limited hardware warranty. Additional information available at www.support.hp.com ⁽⁸⁹⁾ • 1-year limited technical support for software and initial setup (from date of purchase) ⁽⁵³⁾

Software and technology

Help and support	• HP Support Assistant: Included with your computer, this free self-help tool makes it easier than ever to get help with your HP PC and printers. ⁽⁵⁶⁾ • myHP: Customize, optimize, and secure your device with tips and tricks and easy-to-access settings, and receive helpful messages and information to keep things running smoothly.
Security and protection	• HP BIOS Protection: Get peace of mind knowing your PC BIOS is protected. HP BIOS Protection automatically checks its health and recovers itself. ⁽²³⁾
Partner offers	• Adobe Offer: Get a complimentary 1 month trial of the best creativity and productivity apps from Adobe with the purchase of a computer from HP. Create anything you can imagine – photos, videos, graphics, webpages, PDFs, and more. Get started with the app that best fits your need. ^(88a) • McAfee 30-day trial: Secure your privacy and data when browsing on public Wi-Fi with VPN, included in your free McAfee 30-day trial. ^(80b) • Dropbox cloud storage: Store and synchronize your content online with Dropbox. Get 100GB of storage for 90 days to access, manage, and share your photos, music, and files from anywhere with Internet access. ⁽⁹⁾⁽²²⁾ • Xbox Game Pass Premium 2 month trial: Enjoy 2 months of Xbox Game Pass Premium. Free with your new HP Laptop. ⁽⁶⁰⁾
System performance	• HP Connection Optimizer: Get consistent and reliable Wi-Fi performance with software that automatically switches between the most efficient wireless access points. ⁽⁹⁾
Work and lifestyle	• Otter.ai: With Otter.ai, an AI assistant can record audio, write notes, automatically capture slides, record, transcribe, and generate meeting summaries so that you can save time and stay organized. • Microsoft Copilot: Microsoft Copilot gives you intelligent answers. Access with just the touch of the Copilot key. ⁽⁴¹⁾
Gaming and entertainment	• OMEN AI: Provides personalized settings recommendations to achieve the best possible FPS with minimum hassle. • DTS:X® Ultra technology: By producing authentic, spatially accurate 3D sound, this technology gives games, movies, and music a level of depth and immersion for the best entertainment experience possible. • OMEN Gaming Hub: Your one place for everything to make your gaming experience better. From software enhancements to hardware control, and live services, OMEN Gaming Hub elevates play in an easy and simple way.
Additional information	
Product number	• B7HV2UA#ABA
Ad embargo date	• 05/04/2025
UPC Code	• 198990306070
Country of origin	• China, Thailand
Pallet information	• Dimensions: 47.24 in (L) x 39.37 in (W) x 45.71 in (H) • Total weight: 920 lb • Layers: 3 • Products per layer: 28

