

OMEN Gaming Laptop 16-am0503na

Bold performance without the burnout

The new OMEN 16 not only has the power of the latest next-gen Intel®¹ and NVIDIA® components, but it also has the proper thermal innovations to keep them from burning out. Pair that with OMEN AI for maximum possible FPS at the click of a button and Unleashed Mode for that extra boost in performance, and you have our most reliably powerful laptop yet.



*Product image may differ from actual product



Cooling that keeps up

Handle the heat with high efficiency fans that reduce noise and keeps your laptop cool while you game on.



Instantly raise your game

Get maximum possible FPS with OMEN AI and boost your power beyond its base limits with Unleashed Mode.



Next generation of performance

Get the best possible performance with the latest next-gen NVIDIA® GPUs and Intel® Processors¹.

Sustainability in action

Steady connection, even steadier aim

Never miss a call or headshot with a high refresh rate display² and built-in FHD webcam³.

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Featuring

Get a fresh perspective

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.⁴

Smarter. Faster. Lighter

Gaming, creating, AI. Do it all on Intel® Core™ Ultra processors⁵

144 Hz FHD anti-glare display

Reduce frustrating lag and image ghosting with a display that combines a 144 Hz refresh rate and a 1080p resolution for smooth, crisp gameplay.²

Anti-glare panel

Enjoy the sun and your favorite content with this anti-glare panel. Non-reflective and low gloss means you'll get less glare while you're outside.

Flicker-free

Using DC Dimming technology that controls brightness by adjusting direct current rather than cycling the backlight, we can eliminate screen flickering for more comfortable viewing.⁶

16:10 aspect ratio

A 16:10 aspect ratio lets you see more of your content with less scrolling.

62.5% sRGB

Enjoy a 62.5% sRGB display for clear color.

Try PC Game Pass for free with your new HP device

Play hundreds of high-quality PC games with your new HP gaming device and 3 free months of PC Game Pass - including EA play. With new games added all the time, there's always something new to play.⁷

Thoughtful design

HP incorporates increasing amounts of recycled, renewable, and non-virgin raw materials. Built with the environment in mind, this product includes a percentage of ocean-bound plastic in the design.⁸

Keyboard contains post-consumer recycled plastic

We're bringing a more thoughtful design to our keyboards by using post-consumer recycled plastic in the design.⁹

ENERGY STAR®

This product meets the criteria that require computers to operate efficiently to get ENERGY STAR certification.¹⁰

HP Fast Charge

When your laptop is low on power, no one has time to wait hours to recharge. Power down your device and go from 0 to 50% charge in approximately 30 minutes.¹¹

Effortlessly connected

Enjoy faster speeds, improved performance and greater capacity with Wi-Fi 6 and Bluetooth® 5.4 wireless card.¹²

HP True Vision FHD

Video chat in vibrant clarity with Full HD resolution, even in low light, and make every conversation a face-to-face experience for a better way to stay in touch.¹³

USB Type-A 5Gbps signaling data rate

Plug in your external storage with this USB Type-A port, featuring 5Gbps signaling data rate.¹⁴

McAfee® LiveSafe™

Free 12-month subscription of McAfee® LiveSafe™ service included. McAfee® LiveSafe™ service enriches your digital life by protecting your data, identity and all your devices so you can connect with confidence.¹⁵

PCIe SSD storage

Boot up in seconds with lightning fast speed with up to 512 GB PCIe SSD storage.

HP Audio Boost

Take your audio experience to the next level with smart amplification technology giving you loud, clear and dynamic sound.

Audio tuned by HyperX

Immerse yourself in the sweet sounds of audio mixed and tuned by HyperX.

Dual channel memory

With dual channel technology, two channels work simultaneously to double the communication speed between the memory controller and the RAM increasing system performance.

HP Imagepad with multi-touch gesture

This true multi-touch touchpad supports four finger gestures and lets you scroll, zoom, and navigate with a simple touch.

Recommended accessories and services (not included)



HyperX Cloud III Wireless - Gaming Headset
77Z46AA



HyperX Knight Backpack
8C525AA



HyperX Pulsefire Haste 2 Pro - 4K Wireless Gaming
Mouse
A1KY5AA



3-year pickup and return
UM963E



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Specifications



Performance

Operating system
Windows 11 Home

Processor
Intel® Core™ Ultra 5 225H (up to 4.9 GHz with Intel® Turbo Boost Technology, 18 MB L3 cache, 14 cores, 14 threads)^{6,7}
Processor family: Intel® Core™ Ultra 5 processor
Neural Processing Unit (NPU): Intel® AI Boost (13 NPU TOPS)

Chipset
Intel® integrated SoC

Memory
16 GB DDR5-5600 MT/s (2 x 8 GB)
Transfer rates up to 5600 MT/s.
Number of User-accessible Memory Slots: 2

Storage
512 GB PCIe® Gen4 NVMe™ M.2 SSD
25 GB Dropbox storage for 12 months¹

Graphics
Discrete: NVIDIA® GeForce RTX™ 4050 (6 GB GDDR6 dedicated) ;

Audio
DTS:X® Ultra; Dual speakers; HP Audio Boost; HyperX

Display
40.6 cm (16") diagonal, 2K (1920 x 1200), 60-144 Hz, IPS, micro-edge, anti-glare, 300 nits, 62.5% sRGB

Screen-to-body ratio
87.49%¹⁸

Power
230 W AC power adapter;

System coolers

Battery type
4-cell, 70 Wh Li-ion polymer²³

Battery and Power
Supports battery fast charge: approximately 50% in 30 minutes⁵

Connectivity

Network interface
Integrated 10/100/1000 GbE LAN

Wireless connectivity
Realtek Wi-Fi 6 (2x2) and Bluetooth® 5.4 wireless card ^{11,12,13,46}
Modern Standby (Connected)

Ports
1 USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 2 USB Type-A 5Gbps signaling rate; 1 AC smart pin; 1 HDMI 2.1; 1 headphone/microphone combo; 1 RJ-45^{19,42}

Webcam
HP True Vision 1080p FHD camera with temporal noise reduction and integrated dual array digital microphones

Sustainability

Energy star certified
ENERGY STAR® certified

Sustainable impact specifications
Ocean-bound plastic in speaker enclosure(s) and bezel; Keyboard keycaps and scissors contain post-consumer recycled plastic^{39,41}

Design

Product color
Shadow black, black chrome logo
Paint finish

Software

HP apps
HP Support Assistant; HP Connection Optimizer; OMEN Gaming Hub

Software
Otter.ai;
1 month trial for new Microsoft 365 customers²⁴

Service & support
McAfee Online Protection 30-day trial; 1-month Adobe free trial offer; Xbox Game Pass 1-month free trial; PC Game Pass 3-month trial ^{2,25,43}

Additional information

Part Number
P/N: B85PNEA #ABU
UPC/EAN code: 198990419206

Weight
2.43 kg;
Packed: 3.77 kg

Dimensions
35.75 x 26.9 x 2.37 cm (front); 35.75 x 26.9 x 2.54 cm (rear);
Packed: 6.3 x 56.7 x 30.5 cm

Manufacturer Warranty
1 year (1/1/0) limited warranty includes 1 year of parts and labor. No on-site repair. Terms and conditions vary by country. Certain restrictions and exclusions apply.

Keyboard
Full-size, backlit, shadow black keyboard with numeric keypad and 26-Key Rollover Anti-Ghosting Key technology
HP Imagepad

Security management
Camera privacy shutter; Trusted Platform Module (Firmware TPM) support

Sensors
IR thermal sensor



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Footnotes

Messaging Footnotes

- 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. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
- ² All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
- ³ Camera resolution refers to the image sensor active pixels. The actual image capture pixels and aspect ratio depend on the app selected.
- ⁴ 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>.
- ⁵ 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® Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost/> for more information. 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 inferencing performance varies by use, configuration, software and other factors.
- ⁶ The flicker-free capability eliminates screen flickering through integrating DC-dimming LED backlights.
- ⁷ Xbox Game Pass sold separately. Credit card required. Unless you cancel, you will be charged the then-current regular membership rate when the promotional period ends. Terms, exclusions, and streaming limits apply. Xbox Cloud Gaming (Beta): select devices and regions. After term, active membership required to play games and online multiplayer. Game catalog varies over time, region, and by device. DLC sold separately; if a game is removed from catalog or your membership ends, you will need to purchase the game separately to use your DLC. If you're already an Xbox Live Gold and/or Game Pass for Console/PC member, any days remaining in your membership(s) will be converted to Ultimate using a conversion ratio. Future code redemptions also subject to conversion ratio. All conversions to Ultimate are final. Details and system requirements at www.xbox.com/gamepass. Offer valid in all Xbox Game Pass markets excluding Russia. Digital Direct: Your digital content will be delivered directly to your device during set-up; no codes required. PC Game Pass: Subscription continues automatically at regular monthly price unless cancelled. Subject to xbox.com/subscriptionterms
- ⁸ Percentage of ocean-bound plastic contained in each component varies by product.
- ⁹ Keyboard components contain post-consumer recycled plastic. Percentage of post consumer recycled contained in each component varies by product.
- ¹⁰ Based on U.S. EPEAT® registration according to IEEE 16801-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.
- ¹¹ Recharges your battery up to 50% within 30 minutes when the system is off (using "shut down" command). Recommended for use with the HP adapter provided with the notebook, not recommended with a smaller capacity battery charger. After charging has reached 50% capacity, charging speed will return to normal speed. Charging time may vary +/-10% due to System tolerance. Available on select HP products. See <http://store.hp.com> for a full list of product features.
- ¹² Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs. Wi-Fi 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels. Wi-Fi 6 (802.11ax) is not supported in Belarus where Wi-Fi settings will be optimized to local regulatory requirements (802.11ac). 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. Bluetooth® is a trademark owned by its proprietor and used by HP Inc. under license.
- ¹³ Features may require software or other 3rd party applications to provide the described functionality.
- ¹⁴ Actual throughput may vary.
- ¹⁵ Internet service required and not included. Subscription required after the 12 month.

Technical Specifications Footnotes

- ¹ 25 GB of free Dropbox storage for 12 months from date of registration. For complete details and terms of use, including cancellation policies, visit the Dropbox website at <https://www.dropbox.com/help/space/hp-promotion>. Internet service required and not included.
- ² Internet access required and not included. McAfee is pre-installed 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 is not compatible with Windows 11 in S mode. You'll need to permanently switch out of S mode. There's no charge to switch out of S mode, but you won't be able to turn it back on.
- ³ Recharges your battery up to 50% within 30 minutes when the system is off (using "shut down" command). Recommended for use with the HP adapter provided with the notebook, not recommended with a smaller capacity battery charger. After charging has reached 50% capacity, charging speed will return to normal speed. Charging time may vary +/-10% due to System tolerance. Available on select HP products. See <http://store.hp.com> for a full list of product features.
- ⁶ 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.
- ⁷ Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost/> for more information.
- ¹¹ Wi-Fi 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.
- ¹² Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs.
- ¹³ Wi-Fi 6 (802.11ax) is not supported in Belarus where Wi-Fi settings will be optimized to local regulatory requirements (802.11ac).
- ¹⁷ All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
- ¹⁸ Percent of active plus nonactive viewing area to active viewing area plus border. Measure with lid vertical to the desk.
- ¹⁹ For best results with HP Sleep and Charge, use a USB charging protocol standard cable or cable adapter with an external device.
- ²³ 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.
- ²⁴ Must activate within 180 days of Windows activation.
- ²⁵ 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 transferrable. 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.
- ²⁷ Based on U.S. EPEAT® registration according to IEEE 16801-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.
- ³⁷ Weight and system dimensions may fluctuate due to configuration and manufacturing variances.
- ³⁹ Percentage of ocean-bound plastic contained in each component varies by product.
- ⁴¹ Keyboard components contain post-consumer recycled plastic. Percentage of post consumer recycled contained in each component varies by product.
- ⁴² 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.
- ⁴³ Xbox Game Pass sold separately. Credit card required. Unless you cancel, you will be charged the then-current regular membership rate when the promotional period ends. Terms, exclusions, and streaming limits apply. Xbox Cloud Gaming (Beta): select devices and regions. After term, active membership required to play games and online multiplayer. Game catalog varies over time, region, and by device. DLC sold separately; if a game is removed from catalog or your membership ends, you will need to purchase the game separately to use your DLC. If you're already an Xbox Live Gold and/or Game Pass for Console/PC member, any days remaining in your membership(s) will be converted to Ultimate using a conversion ratio. Future code redemptions also subject to conversion ratio. All conversions to Ultimate are final. Details and system requirements at www.xbox.com/gamepass. Offer valid in all Xbox Game Pass markets excluding Russia. Digital Direct: Your digital content will be delivered directly to your device during set-up; no codes required.
- ⁴⁵ The Flicker-free capability is eliminating screen flickering through integrating DC-dimming LED backlights or LED emissions. OLED panel is functional with DC-DIMMING when above 100nits.
- ⁴⁶ 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.

