

OMEN MAX Gaming Laptop 16-ak0002na

Built to surpass limits

The OMEN 16 MAX gaming laptop provides unparalleled performance both at-home or on-the-go. With next-gen NVIDIA® GPUs and AMD Ryzen™ AI CPUs¹, a new Unleashed Mode for manual overclocking, and a thermal architecture built to cut down on both throttling and long term wear, dedicated gamers can achieve their best for years to come.



*Product image may differ from actual product



Performance you control

Throttle less and carry more with the latest AMD Ryzen™ AI CPUs¹ and next-gen NVIDIA® RTX™ graphics.



Put your throttling on ice

Self-cleaning fans, a vapor chamber, and liquid metal ensure your laptop stays cool and reduces maintenance.



Instant pair with HyperX

Seamlessly connect up to three compatible HyperX devices to your laptop at once with Instant Pair.

Sustainability in action

Light the way you play

Customize your lattice-less RGB keyboard and other lighting options in OGH to represent your unique style.



with



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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.²

AMD FreeSync™ Premium Technology

Every gamer deserves perfectly smooth gameplay and peak performance. Game confidently with a high refresh rate, low framerate compensation, and low latency. AMD FreeSync™ Premium certified monitors are here.³

Wide Quad Extended Graphics Array Display

Get lost in the captivating definition with 2560 × 1600 pixels.⁴

Eyesafe® Certified Display

Eyesafe® certified displays meet TÜV low blue light requirements and Eyesafe® standards for protecting your eyes from harmful blue light without distorting colors to reduce eyestrain when working for long periods of time.⁵

3ms response time

How fast your display's pixels respond is crucial for a smooth picture. With a 3-millisecond response time, your action-filled content will look crisp and fluid without motion blur.⁶

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.⁷

16:10 aspect ratio

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

100% sRGB

Showcase your creations in all their colors on the 100% sRGB display for maximum color broadness and accuracy.

Try PC Game Pass for free with your new HP device

Play hundreds of high-quality PC games with your new HP 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.⁸

Incorporating ocean-bound plastics

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.⁹

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.¹⁰

ENERGY STAR®

This product meets the criteria that require computers to operate efficiently to get ENERGY STAR certification.¹¹

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.¹²

MediaTek Wi-Fi 7 (2x2) and Bluetooth® 5.4 wireless card

Quantum leap in wireless performance with all-new levels of increased speed and reduced latency with Wi-Fi 7*. Also featuring Bluetooth® 5.4.¹³

HP True Vision FHD IR camera

Log in safely through Windows Hello with the infrared sensor. With an 88-degree, wide-angle field of view, you can video chat with your entire family or group of friends in stunning detail.¹⁴

DisplayPort™

This robust digital video and audio port transmits up to 8K performance or allows you to connect multiple displays together.¹⁵

McAfee® LiveSafe™

Protect your operating system with a free 30-day McAfee® LiveSafe™ subscription.¹⁶

1TB PCIe® Gen4 NVMe™ M.2 SSD

With high-speed data transfer, the 1 TB PCIe Gen4 NVMe M.2 SSD offers lightning fast speed and efficient storage.¹⁷

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 Knight Backpack
8C525AA



HyperX Pulsefire Haste 2 Pro 4k Wireless Gaming
Mouse
A1KY5AA



HyperX Cloud III S Wireless Black-Red Gaming
Headset
A59Z0AA



3-year pickup and return
UM963E



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Specifications



Performance

Operating system

Windows 11 Home

Processor

AMD Ryzen™ AI 7 H 350 (up to 5.0 GHz max boost clock, 16 MB L3 cache, 8 cores, 16 threads)^{6,7}

Processor family: AMD Ryzen™ AI 7 processor

Neural Processing Unit (NPU): AMD Ryzen™ AI (50 NPU TOPS)

Chipset

AMD integrated SoC

Memory

32 GB DDR5-5600 MT/s (2 x 16 GB)

Transfer rates up to 5600 MT/s.

Number of User-accessible Memory Slots: 2

Storage

1 TB PCIe® Gen4 NVMe™ M.2 SSD

25 GB Dropbox storage for 12 months¹

Graphics

Discrete: NVIDIA® GeForce RTX™ 5070 Ti Laptop GPU (12 GB GDDR7 dedicated);

Audio

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

Display

40.6 cm (16") diagonal, WQXGA (2560 x 1600), 60-240 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 500 nits, 100% sRGB^{17,21,28}

Screen-to-body ratio

88.81%¹⁸

Power

330 W AC power adapter;

Battery type

6-cell, 83 Wh Li-ion polymer²³

Battery and Power

Supports battery fast charge: approximately 50% in 30 minutes⁵

Connectivity

Network interface

Integrated 10/100/1000/2500 GbE LAN

Wireless connectivity

MediaTek Wi-Fi 7 MT7925 (2x2) and Bluetooth® 5.4 wireless card

Ports

2 USB Type-A 10Gbps signaling rate; 1 AC smart pin; 1 HDMI 2.1; 1 headphone/microphone combo; 1 RJ-45; 2 USB Type-C® 40Gbps signaling rate (USB Power Delivery 3.1, DisplayPort™ 2.1, HP Sleep and Charge)^{19,42}

Expansion slots

2 M.2 (SSD)

Webcam

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

Sustainability

Ecolabels

EPEAT® Gold with Climate+²⁷

Energy star certified

ENERGY STAR® certified

Sustainable impact specifications

Ocean-bound plastic in bezel; Keyboard keycaps and scissors contain post-consumer recycled plastic; Recycled metal in cover, base and hinge cap(s)^{39,40,41}

Design

Product color

Shadow black cover and base, shadow black aluminum keyboard frame, black chrome logo
Sandblasted and 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; PC Game Pass 3-month trial^{2,25}

Additional information

Part Number

P/N: C7HM5EA #ABU

UPC/EAN code: 199642205086

Weight

2.71 kg;

Packed: 4.74 kg

Dimensions

35.65 x 26.9 x 2.29 cm (front); 35.65 x 26.9 x 2.48 cm (rear);

Packed: 9.4 x 42.8 x 33.2 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, per key RGB backlit, shadow black keyboard with numeric keypad and NKRO Anti-Ghosting Key technology

HP Imagepad

Features

AMD FreeSync™ Premium²⁹

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. AMD's numbering is not a measurement of clock speed. Max Boost clock frequency performance varies depending on hardware, software and overall system configuration. 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.
- ² 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>.
- ³ Requires a monitor and AMD Radeon™ graphics, both with FreeSync Premium support. AMD FreeSync Premium requires mandatory low framerate compensation and at least 120 Hz refresh rate at minimum FHD. See www.amd.com/freesync for complete details. Confirm capability with your system manufacturer before purchase. GD-161.
- ⁴ WQXGA content is required to view WQXGA images.
- ⁵ All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. Eyesafe® Display for Low Blue Light is the Display Compliance Test Specification quality. See <https://eyesafe.com> for more details. Display measured diagonally
- ⁶ All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary, either higher or lower.
- ⁷ The flicker-free capability eliminates screen flickering through integrating DC-dimming LED backlights.
- ⁸ PC Game Pass: Subscription continues automatically at regular monthly price unless cancelled. Subject to xbox.com/subscriptionterms. Terms and exclusions apply. Game catalog varies over time, by region, and by device. All rights reserved. xbox.com/pcgamepass, ea.com/ea-play/terms. Three month trial for devices purchased after October 2024. Microsoft account required. Offers available in select regions only. Credit card required. After promotional period, subscription automatically continues at the then-current regular price (subject to change), unless cancelled, plus applicable taxes. For cancellation details, see xbox.com/cancel. For complete details see terms and conditions <https://www.xbox.com/en-US/xbox-game-pass?mssockid=3f8c879b624a6bb10ac4924e63d86a01>
- ⁹ Percentage of ocean-bound plastic contained in each component varies by product.
- ¹⁰ Keyboard components contain post-consumer recycled plastic. Percentage of post consumer recycled contained in each component varies by product.
- ¹¹ Based on U.S. EPEAT® registration according to IEEE 16801:2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.
- ¹² 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 <http://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. Available on select HP products.
- ¹³ 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 future OS, compatible processor, and a Wi-Fi 7 router, sold separately. Wi-Fi 7 is backwards compatible 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. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11ac) is backwards compatible with prior Wi-Fi 5 specs. Bluetooth® is a trademark owned by its proprietor and used by HP Inc. under license. 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.
- ¹⁴ Features may require software or other 3rd party applications to provide the described functionality.
- ¹⁵ 8K content required to view 8K images. DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. Display measured diagonally
- ¹⁶ Internet service required and not included. Subscription required after 30 days.
- ¹⁷ For hard drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB of system disk is reserved for system recovery software.

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.
- ⁵ 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 <http://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. Available on select HP products.
- 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. AMD's numbering is not a measurement of clock speed.
- ⁷ Max Boost clock frequency performance varies depending on hardware, software and overall system configuration.
- ¹² Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires Windows 11 2024, select Intel® Core™ or Intel® Core™ Ultra processor, and a Wi-Fi 7 router, sold separately. Wi-Fi 7 is backwards compatible 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.
- 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.
- ²¹ TÜV Low Blue Light is the Display Compliance Test Specification quality. See <https://www.certipedia.com/?locale=en#search> for more details.
- 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.
- ²⁸ Eyesafe® Display for Low Blue Light is the Display Compliance Test Specification quality. See <https://eyesafe.com> for more details.
- ²⁹ AMD FreeSync™ /FreeSync™ Premium/FreeSync™/FreeSync™ Replay Premium Pro is enabled on FHD or higher resolution displays, with the additional requirements, such as at least 120Hz refresh rate, low framerate compensation, and HDR to support AMD FreeSync™ Premium/ FreeSync™ Premium Pro/FreeSync™ Replay. AMD Radeon Graphics and/or AMD A-Series APU-compliant monitors with DisplayPort/HDMI Adaptive-Sync required. AMD 1511 Crimson driver (or newer) required to support FreeSync over HDMI. Adaptive refresh rates vary by monitor. AMD FreeSync™ /FreeSync™ Premium/FreeSync™ /FreeSync™ Replay Premium Pro technology requires AMD Radeon graphics and a display certified by AMD. See www.amd.com/freesync for complete details. GD-127 © 2023 Advanced Micro Devices, Inc. All rights reserved. AMD, the AMD Arrow logo, Radeon, FreeSync, and combinations thereof are trademarks of Advanced Micro Devices, Inc.
- 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.
- ⁴⁰ Laptops manufactured with recycled metal material in product cover. Percentage of recycled metal 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.
- 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.
- ⁵⁰ Copilot in Excel requires AutoSave to be enabled, meaning the file must be saved to OneDrive; it doesn't function with unsaved files. Copilot features in Outlook apply to accounts with @outlook.com, @hotmail.com, @live.com, or @msn.com email addresses and are available in Outlook.com, Outlook built into Windows, Outlook on Mac, and iOS and Android apps. AI features only available to Microsoft 365 Family subscription owner and cannot be shared; usage limits apply. Learn more [Understanding AI credits - Microsoft Support](#). Microsoft Copilot features in Microsoft 365 are not available in China or Macao SAR.

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