ProductSheet
OMEN MAX Gaming Laptop 16-ah0001nc (B9PA3EA)

Built to break limits

The OMEN 16 MAX gaming laptop provides unparalleled performance both at-home or on-the-go. With next-gen NVIDIA® GPUs and Intel® Core™ Ultra CPUs[1], 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.

Performance you control
Throttle less and carry more with the latest Intel® Core™ Ultra CPUs[1] 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
Instantly connect up to three HyperX devices to your laptop at once, like a mouse, headset, and controller.

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]

Smarter. Faster. Lighter
Gaming, creating, AI. Do it all on Intel® Core™ Ultra processors [3]
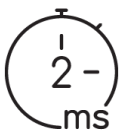
OLED display
With display technology that lights each pixel separately, you'll get deeper blacks for richer contrast, enhanced color depth, and more power efficiency than traditional LED screens.

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.

2ms response time
How fast your display's pixels respond is crucial for a smooth picture. With a 2 millisecond response time, your action-filled content will look crisp and fluid without motion blur. [4]

Specifications

Operating system	Windows 11 Home
Product color	Shadow black
Processor family	Intel® Core™ Ultra 7 processor
Processor	Intel® Core™ Ultra 7 255HX (up to 5.2 GHz with Intel® Turbo Boost Technology, 30 MB L3 cache, 20 cores, 20 threads)[6,7]
Chipset	Intel® HM870
Memory	32 GB DDR5-5600 MT/s (2 x 16 GB)
Internal Storage	1 TB PCIe® Gen4 NVMe™ M.2 SSD
Graphics	Discrete
Graphics (discrete)	NVIDIA® GeForce RTX™ 5070 Laptop GPU (8 GB GDDR7 dedicated)
Graphics	Integrated
Graphics (integrated)	Intel® Graphics
Display	40.6 cm (16") 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
Display	16" 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
Display size (diagonal)	40.6 cm (16")
Display size (diagonal)	16"
Audio	DTS:X® Ultra; Dual speakers; HP Audio Boost; HyperX
Dimensions (W x D x H)	35.65 x 26.9 x 2.29 cm (front); 35.65 x 26.9 x 2.45 cm (rear)
Dimensions (W x D x H)	14.04 x 10.59 x 0.9 in (front); 14.04 x 10.59 x 0.96 in (rear)
Weight	2.49 kg
Weight	5.5 lb
Keyboard	Full-size, per key RGB backlit, shadow black keyboard with numeric keypad and NKRO Anti-Ghosting Key technology
Pointing device	HP Imagepad
Input devices	IR thermal sensor
Camera	HP True Vision 1080p FHD IR camera with temporal noise reduction and integrated dual array digital microphones
Ports	2 Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 USB Type-A 10Gbps signaling rate (HP Sleep and Charge); 1 USB Type-A 10Gbps signaling rate; 1 AC smart pin; 1 HDMI 2.1; 1 headphone/microphone combo; 1 RJ-45[19,42]
Package dimensions (W x D x H)	9.4 x 42.8 x 33.2 cm
Package weight	4.74 kg
Network interface	Integrated 10/100/1000 GbE LAN
Wireless	Intel® Wi-Fi 7 BE200 (2x2) and Bluetooth® 5.4 wireless card[12,46]
Power supply type	280 W AC power adapter
Battery type	6-cell, 83 Wh Li-ion polymer ([23])
Battery recharge time	Supports battery fast charge: approximately 50% in 30 minutes[5]
Sustainable impact specifications	Ocean-bound plastic in bezel; Keyboard keycaps and scissors contain post-consumer recycled plastic; Recycled metal in cover and hinge cap(s)
Security management	Camera privacy shutter; Trusted Platform Module (Firmware TPM) support
Software included	McAfee Online Protection 30-day trial
Software – Productivity & finance	1 month trial for new Microsoft 365 customers[24]
Cloud service	25 GB Dropbox storage for 12 months[1]
UPC number	198990763071

Top Recommended Displays, Accessories and Services

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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, branding and/or naming is not a measurement of higher performance.

[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] 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.

[4] All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary, either higher or lower.

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.

[5] 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.

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[7] Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See http://www.intel.com/technology/turboboost/ for more information.

[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.

[19] For best results with HP Sleep and Charge, use a USB charging protocol standard cable or cable adapter with an external device.

[24] Must activate within 180 days of Windows activation.

[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.

[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.