

Surface Laptop Studio 2

Fact sheet | September 2023



Meet Surface Laptop Studio 2, a laptop like no other.

Surface Laptop Studio 2 brings together the versatility to create and the power to perform, combining cutting-edge design with incredible performance to power the most demanding apps. Instantly transform from 14.4" touchscreen laptop to perfectly angled display for entertainment to creative canvas for drawing and sketching. With Windows 11, it's a laptop like no other.

Top features and benefits

- Built to power your biggest ideas. Get up to 2x more power with 13th Gen Intel® Core™ H-class processors built on the Intel® Evo™ platform. Experience up to 2X more graphics performance with latest NVIDIA® Laptop GPUs for realistic ray traced graphics and AI-accelerated performance.
- Multitask without breaking a sweat. Stay productive with up to 64GB of system RAM and ultra-fast SSDs with up to 2TB of storage. And with up to 18 hours battery life (and up to 16 hours on 2 TB SSD NVIDIA® graphics models).
- **Cutting-Edge NVIDIA graphics.** Create content faster or play the latest games with NVIDIA® GeForce RTX™ 4050 or 4060. Or design, engineer, or render with the NVIDIA® RTX™ 2000 Ada Generation laptop GPUs.

- Power to perform and versatility to create. Its innovative dynamic woven hinge and new sleek anodized aluminum chassis enables three distinct modes:
 - Stay productive in laptop mode. The full keyboard and new precision haptic touchpad provide comfortable feedback as you navigate. It is the most inclusive touchpad on any laptop.
 - Get creative and ideate in studio mode. Draw, write, brainstorm and sketch with Surface Slim Pen 2 on a portable canvas. Attach, store, and charge Surface Slim Pen under the front of the keyboard.
 - Stream, present or collaborate in stage mode. Pull the display forward and place it at the perfect angle thanks to the flexible and dynamic woven hinge.
- Designed to inspire and entertain. See and do more on the bright, vibrant 14.4" PixelSense™ Flow touchscreen with true-to-life color and up to 120Hz refresh rate, now with Dolby Vision IQ® and HDR. Plus, cinematic sound with Omnisonic® speakers and Dolby Atmos®.
- Be more engaged on Microsoft Teams calls with the AI-enhanced field of view full HD Studio Camera with eye contact, background blur and automatic framing.
- Two USB-C® ports with Thunderbolt™ 4, one USB-A port, microSD card reader, 3.5mm audio jack, and Surface Connect for docking and charging.

Technical Specifications

Processor

Consumer

- 13th Gen Intel® Core™ i7-13700H Processor
Built on the Intel® Evo™ platform
- Intel® Gen3 Movidius 3700VC VPU AI Accelerator

Commercial

- 13th Gen Intel® Core™ i7-13800H Processor
Built on the Intel® Evo™ platform
 - Intel® Gen3 Movidius 3700VC VPU AI Accelerator
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Graphics

Graphics options:

- NVIDIA® GeForce RTX™ 4050 Laptop GPU with 6GB GDDR6 vRAM
2130 MHz boost clock speed, 80W maximum graphics power
 - NVIDIA® GeForce RTX™ 4060 Laptop GPU with 8GB GDDR6 vRAM
2010 MHz boost clock speed, 80W maximum graphics power
 - NVIDIA® RTX™ 2000 Ada Generation Laptop GPU with 8GB GDDR6 vRAM
2115 MHz boost clock speed, 80W maximum graphics power
 - Intel® Iris® Xe Graphics
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Memory and storageⁱ

Memory options:

- 16GB, 32GB or 64GB LPDDR5x RAM

Storage options:

- Removableⁱⁱ solid-state drive (Gen 4 SSD) options: 512 GB, 1TB or 2TB
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Display

- HDR Touchscreen: 14.4"ⁱⁱⁱ PixelSense™ Flow Display
 - Resolution: 2400 x 1600 (200 PPI)
 - Refresh rate: up to 120Hz
 - Aspect ratio: 3:2
 - Contrast ratio 1500:1
 - Color profile: sRGB and Vivid
 - Individually color-calibrated display
 - VESA DisplayHDR 400 certified
 - Dolby Vision IQ^{iv} support
 - Touch: 10-point multi-touch
 - Corning® Gorilla® Glass 5 display
 - Brightness:
 - SDR: 500 nits maximum (typical)
 - HDR: 650 nits peak luminance^v
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Size and Weight^{vi}

- Length: 12.72 inch (323 mm)
 - Width: 9.06 inch (230 mm)
 - Height: 0.86 inch (22 mm)
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	<ul style="list-style-type: none"> Weight: <ul style="list-style-type: none"> Intel® Iris® Xe graphics model: 4.18 lbs (1.89kg) NVIDIA® graphics models: 4.37 lbs (1.98 kg)
Battery Life ^{vii}	<ul style="list-style-type: none"> Intel® Iris® Xe graphics model: up to 19 hours of typical device usage NVIDIA® graphics models (except 2 TB SSD): up to 18 hours of typical device usage 2 TB SSD NVIDIA® graphics models: up to 16 hours of typical device usage
Security	<p>Consumer</p> <ul style="list-style-type: none"> Firmware TPM 2.0 Windows Hello 2.0 face sign-in <p>Commercial</p> <ul style="list-style-type: none"> Hardware TPM 2.0 chip for enterprise-grade security and BitLocker support Enterprise-grade protection with Windows Hello 2.0 face sign-in Windows 11 Secured-core PC
Cameras	<ul style="list-style-type: none"> Full HD front-facing Surface Studio Camera <ul style="list-style-type: none"> 1080p Full HD camera with wide field of view Windows Studio Effects with automatic framing, eye contact, and background blur Windows Hello 2.0 face authentication camera
Audio	<ul style="list-style-type: none"> Dual far-field Studio Mics with Voice Clarity^{viii} Quad Omnisonic® speakers with Dolby® Atmos^{ix}
Ports	<ul style="list-style-type: none"> 2 x USB-C® with USB4® / Thunderbolt™ 4 (with DisplayPort and Power Delivery) USB-A 3.1 MicroSDXC card reader 3.5 mm headphone jack Surface Connect port
Network and connectivity	<ul style="list-style-type: none"> Wi-Fi 6E: 802.11ax compatible Bluetooth® Wireless 5.3 technology
Pen & accessories compatibility	<ul style="list-style-type: none"> Designed for Surface Slim Pen 2^x and supports tactile signals Integrated Surface Slim Pen 2^x storage for charging under the keyboard Supports Microsoft Pen Protocol (MPP)
Software	<p>Consumer</p> <ul style="list-style-type: none"> Windows 11 Home Preloaded Microsoft 365 Apps^{xi} Microsoft 365 Family 30-day trial^{xii} Xbox Game Pass Ultimate 30-day trial^{xiii}

	<p>Commercial</p> <ul style="list-style-type: none"> • Windows 11 Pro or Windows 10 Pro • Preloaded Microsoft 365 Apps^{xiv} • Microsoft 365 Business Standard, Microsoft 365 Business Premium, or Microsoft 365 Apps 30-day trial^{xv}
Accessibility	<ul style="list-style-type: none"> • Surface precision haptic touchpad with adjustable click sensitivity, right click area, and adaptive touch mode • Compatible with Surface Adaptive Kit • Compatible with Microsoft Adaptive Accessories • Includes Windows Accessibility Features – Learn More Accessibility Features Microsoft Accessibility • Discover more Microsoft Accessible Devices & Products - Accessible Devices & Products for PC & Gaming Assistive Tech Accessories - Microsoft Store
Serviceability	<p>Consumer</p> <p>Replaceable components and self-repair information</p> <p>Commercial</p> <p>Replaceable components include:</p> <ul style="list-style-type: none"> • SSD • AB cover module (display) • C cover (including: keyboard, touchpad, and pen charger) • D-Plate + battery • Motherboard • Cosmetic plate • Charging Port (Surface Connect connector) • MicroSDXC card reader • USB-C® and USB-A ports connectors • Audio jack
Exterior	<ul style="list-style-type: none"> • Casing: Anodized aluminum • Color: Platinum
Hinge	Dynamic Woven Hinge made of woven fabric
Sensors	<ul style="list-style-type: none"> • Auto brightness via Ambient Color Sensor • Accelerometer • Gyroscope
What's in the box	<ul style="list-style-type: none"> • Surface Laptop Studio 2 • Power supply: • Intel® Iris® Xe graphics model: 102W • NVIDIA® graphics models: 120W • Quick start guide • Safety and warranty documents
Keyboard layout	<ul style="list-style-type: none"> • Activation: moving (mechanical) keys • Layout: QWERTY, full row of function keys (F1-F12)

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- Windows key and dedicated buttons for media controls, screen brightness and mute
 - Backlight
 - Precision haptic touchpad
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Warranty^{xvi}

1-year limited hardware warranty

ⁱ System software uses significant storage space. Available storage is subject to change based on system software updates and apps usage. 1 GB = 1 billion bytes. 1 TB = 1,000 GB. See Surface.com/Storage for more details.

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Consumer

This device does not contain user serviceable parts. Hard drive is only removable by an authorized technician following Microsoft provided instructions.

Commercial

Customer Replaceable Units (CRUs) are components available for purchase through your Surface Commercial Authorized Device Reseller. Components can be replaced **on-site by a skilled technician following Microsoft's [Service Guide](#)**. Opening and/or repairing your device can present electric shock, fire and personal injury risks and other hazards. Use caution if undertaking do-it-yourself repairs. Device damage caused during repair will not be covered **under Microsoft's Hardware Warranty** or protection plans. Availability of replaceable components and service options may vary by market and/or at initial product launch.

ⁱⁱⁱ Surface Laptop Studio 2 display has rounded corners within a standard rectangle. When measured as a standard **rectangular shape the screen is 14.36" diagonally (actual viewable area is less)**.

^{iv} Requires Dolby Vision® encoded content and video.

^v HDR requires HDR content and enabling HDR in device settings.

^{vi} Might vary depending on manufacturing processes.

Up to 19.0 hours of battery life based on typical Surface device usage on Surface Laptop Studio 2 with Intel® Core™ i7-13700H Processor, 512GB, 16 GB RAM

Testing conducted by Microsoft in July-August 2023 using preproduction Windows 11 software and preproduction Surface Laptop Studio 2 Intel® Core™ i7-13700H Processor, 512GB, 16GB RAM devices. Testing consisted of full battery discharge with a mixture of active use and modern standby. The active use portion consists of (1) a web browsing test accessing eight popular websites over multiple open tabs, (2) a productivity test utilizing Microsoft Word, PowerPoint, Excel, OneNote and Outlook, and (3) a portion of time with the device in use with idle applications. All settings were default except screen brightness was set to 150 nits with Auto-Brightness, Adaptive Color, and Smart Charging disabled. Wi-Fi was connected to a network. Tested with Windows 11 Version 10.0.22621 (22H2). Battery life varies significantly with settings, usage, and other factors.

Up to 18.0 hours of battery life based on typical Surface device usage on Surface Laptop Studio 2 with Intel® Core™ i7-13700H Processor, NVIDIA® GeForce™ RTX 4050 Laptop GPU, 512GB, 16GB RAM

Testing conducted by Microsoft in July-August 2023 using preproduction Windows 11 software and preproduction Surface Laptop Studio 2 Intel® Core™ i7-13700H Processor, NVIDIA® GeForce™ RTX 4050 Laptop GPU, 512GB, 16GB RAM devices. Testing consisted of full battery discharge with a mixture of active use and modern standby. The active use portion consists of (1) a web browsing test accessing eight popular websites over multiple open tabs, (2) a productivity test utilizing Microsoft Word, PowerPoint, Excel, OneNote and Outlook, and (3) a portion of time with the device in use with idle applications. All settings were default except screen brightness was set to 150nits with Auto-Brightness, Adaptive Color, and Smart Charging disabled. Wi-Fi was connected to a network. Tested with Windows 11 Version 10.0.22621 (22H2). Battery life varies significantly with settings, usage, and other factors.

Surface Laptop Studio 2 with Intel® Core™ i7-13700H Processor, NVIDIA® GeForce™ RTX 4060 Laptop GPU, 2TB, 64GB RAM

Testing conducted by Microsoft in July-August 2023 using preproduction Windows 11 software and preproduction Surface Laptop Studio 2 Intel® Core™ i7-13800H Processor, NVIDIA® GeForce™ RTX 4060 Laptop GPU, 2TB, 64GB RAM devices. Testing consisted of full battery discharge with a mixture of active use and modern standby. The active use portion consists of (1) a web browsing test accessing eight popular websites over multiple open tabs, (2) a productivity test utilizing Microsoft Word, PowerPoint, Excel, OneNote and Outlook, and (3) a portion of time with the device in use with idle applications. All settings were default except screen brightness was set to 150nits with Auto-Brightness, Adaptive Color, and Smart Charging disabled. Wi-Fi was connected to a network. Tested with Windows 11 Version 10.0.22621 (22H2). Battery life varies significantly with settings, usage, and other factors.

^{viii} Voice Clarity requires Windows 11 and is available in apps which use integrated device microphones and use certain Windows audio processing modes.

^{ix} Requires Dolby® Atmos® encoded content/audio.

^x Sold separately.

^{xi} Requires license or subscription (sold separately) to activate and use.

^{xii} Activation required. After 30 days, you will be charged the applicable monthly or annual subscription fee. Credit card required. Cancel any time to stop future charges. See Free Trial - Try Microsoft 365 for a month - Microsoft Store.

^{xiii} Activation required for Xbox Game Pass Ultimate. Xbox Game Pass ultimate 30 day trial accessible through Xbox.com/Play. You can use it to play games on Xbox One and Xbox Series Consoles, and stream select games where available to Surface Hillcrest through Xbox.com/Play and other supported devices. Not currently available in China.

^{xiv} Sold separately. Software license required for some features.

(Japan versions are pre-installed. Not a trial. Need to call it out in OS.)

^{xv} **Activation required.** If your device is managed by your organization's IT department, contact your IT administrator for activation. If you activate your trial outside your organization, after 30 days, you will be charged the applicable monthly or annual subscription fee. Credit card required. Cancel any time to stop future charges.

See <https://aka.ms/m365businesstrialinfo>.

Japan versions are pre-installed. Not a trial. Need to call it out in OS.

^{xvi} Microsoft's Limited Warranty is in addition to your consumer law rights.