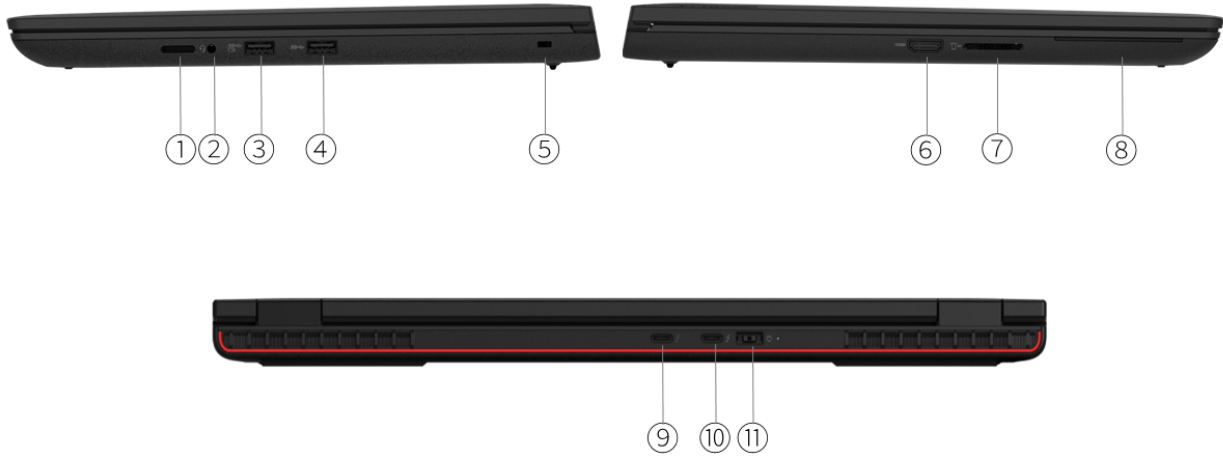


## OVERVIEW



|                                  |                               |
|----------------------------------|-------------------------------|
| 1. Nano-SIM card slot *          | 7. SD Express 7.0 card reader |
| 2. Headphone (3.5mm)             | 8. Smart card reader *        |
| 3. USB 3.2 Gen 1 (Always On)     | 9. Thunderbolt 4              |
| 4. USB 3.2 Gen 1                 | 10. Thunderbolt 4             |
| 5. Kensington Nano Security Slot | 11. Power-in (Slim Tip)       |
| 6. HDMI                          |                               |

Notes:

- Items with \* are only available on selected models

## PERFORMANCE

### Processor

#### Processor Family

13th Generation H series Intel® Core™ i5 / i7 / i9 processor, supports up to 14 cores, up to 5.4GHz

#### Processor\*\*

| Processor Name | Cores                    | Threads | Base Frequency                | Max Frequency                 | Cache |
|----------------|--------------------------|---------|-------------------------------|-------------------------------|-------|
| Core i5-13500H | 12 (4 P-core + 8 E-core) | 16      | P-core 2.6GHz / E-core 1.9GHz | P-core 4.7GHz / E-core 3.5GHz | 18MB  |
| Core i7-13700H | 14 (6 P-core + 8 E-core) | 20      | P-core 2.4GHz / E-core 1.8GHz | P-core 5.0GHz / E-core 3.7GHz | 24MB  |
| Core i7-13800H | 14 (6 P-core + 8 E-core) | 20      | P-core 2.5GHz / E-core 1.8GHz | P-core 5.2GHz / E-core 4.0GHz | 24MB  |
| Core i9-13900H | 14 (6 P-core + 8 E-core) | 20      | P-core 2.6GHz / E-core 1.9GHz | P-core 5.4GHz / E-core 4.1GHz | 24MB  |

### Operating System

#### Operating System\*\*

- Red Hat Enterprise Linux 9.2 (certified only, for detailed and latest information, please visit [Red Hat Certified Hardware](#))<sup>[1]</sup>
- Ubuntu Linux LTS<sup>[2]</sup>
- Windows® 11 DG Windows 10 Pro 64
- Windows 11 Home
- Windows 11 Home Single Language
- Windows 11 Pro
- No operating system

Notes:

[1] Red Hat Enterprise Linux 9.2 certification will be available after Aug 18, 2023.

[2] Some features may not be supported on the system with Linux preload, including but not limited to Intel RST RAID, MIPI computer vision camera, WWAN, Human Presence Detection, etc.

### Graphics

#### Graphics

| Graphics                                  | Type       | Memory    | TGP           | Key Features  |
|---|------------|-----------|---------------|---|
| Intel Iris® Xe Graphics <sup>[1]</sup>    | Integrated | Shared    | Share CPU TDP | DirectX® 12.1   |
| NVIDIA® RTX A500 Laptop GPU               | Discrete   | 4GB GDDR6 | 35W           | DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager |
| NVIDIA RTX A1000 Laptop GPU               | Discrete   | 6GB GDDR6 | 45W           | DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager |
| NVIDIA RTX 2000 Ada Generation Laptop GPU | Discrete   | 8GB GDDR6 | 45W           | DirectX 12 Ultimate, Vulkan Support, NVIDIA FXAA / TXAA Anti-Aliasing, NVIDIA RTX Desktop Manager |

Notes:

[1] Intel Iris Xe Graphics capability requires system to be configured with dual-channel memory. On the system with single-channel memory, Intel Iris Xe Graphics will function as Intel UHD Graphics.

### Monitor Support

#### Monitor Support

Supports up to 4 independent displays (native display and 3 external monitors via HDMI® and Thunderbolt™)

- HDMI supports up to 7680x4320@60Hz
- Thunderbolt supports up to 5120x3200@60Hz (Thunderbolt or USB-C® to DP)

## Chipset

### Chipset

Intel SoC (System on Chip) platform

## Memory

### Max Memory

Up to 96GB (2x 48GB DDR5 SO-DIMM)

### Memory Slots

Two DDR5 SO-DIMM slots, dual-channel capable

### Memory Type

DDR5-5600 non-ECC<sup>[1]</sup>

Notes:

[1] System comes with DDR5-5600 memory and will run at DDR5-5200 due to platform limitations.

## Storage

### Storage Support<sup>[1]</sup>

Up to two drives, 2x M.2 SSD

- M.2 2280 SSD up to 4TB, 2TB each

### Storage Slot

Two M.2 2280 PCIe® 4.0 x4 slots

### Storage Type\*\*

| Disk Type    | Interface                          | Offering            | Security |
|--------------|------------------------------------|---------------------|----------|
| M.2 2280 SSD | PCIe NVMe®, PCIe 4.0 x4            | 256GB / 512GB / 1TB | Opal 2.0 |
| M.2 2280 SSD | PCIe NVMe, PCIe 4.0 x4 Performance | 512GB / 1TB / 2TB   | Opal 2.0 |

## RAID

RAID 0/1 support

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo® storage offerings. The system may support larger storage as the technology develops.

## Removable Storage

### Card Reader

SD Express 7.0 card reader

## Multi-Media

### Audio Chip

High Definition (HD) Audio, Realtek® ALC3287 codec

### Speakers

Stereo speakers, 2W x2, Dolby® Audio™ Premium

### Microphone

- Dual-microphone array, far-field, Dolby Voice
- No microphone

### Camera\*\*

- FHD 1080p, with privacy shutter, fixed focus
- 5.0MP + IR hybrid, with privacy shutter and Ultrasonic Human Presence Detection, fixed focus

## Battery

### Battery

Integrated Li-Polymer 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)

## Power Adapter

# ThinkPad P16v Gen 1 (Intel)

## Power Adapter\*\*<sup>[1]</sup>

- 135W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz
- 170W slim tip (3-pin) AC adapter, 100-240V, 50-60Hz

Notes:

<sup>[1]</sup> AC adapter offerings depend on the country.

## DESIGN

### Display

#### Display\*\*<sup>[1][2]</sup>

| Size | Resolution         | Touch       | Type | Brightness | Surface    | Aspect Ratio | Contrast Ratio | Color Gamut | Viewing Angle (L/R/U/D) | Key Features  |
|------|--------------------|-------------|------|------------|------------|--------------|----------------|-------------|-------------------------|---|
| 16"  | WUXGA (1920x1200)  | None        | IPS  | 300 nits   | Anti-glare | 16:10        | 800:1          | 45% NTSC    | 85°/85°/85°/85°         | 83.9% screen to body ratio, DC dimming  |
| 16"  | WUXGA (1920x1200)  | Multi-touch | IPS  | 300 nits   | Anti-glare | 16:10        | 800:1          | 45% NTSC    | 85°/85°/85°/85°         | 83.9% screen to body ratio, DC dimming  |
| 16"  | WUXGA (1920x1200)  | None        | IPS  | 300 nits   | Anti-glare | 16:10        | 1200:1         | 100% sRGB   | 85°/85°/85°/85°         | TÜV Low Blue Light, 83.9% screen to body ratio, DC dimming  |
| 16"  | WQUXGA (3840x2400) | None        | IPS  | 800 nits   | Anti-glare | 16:10        | 1500:1         | 100% DCI-P3 | 85°/85°/85°/85°         | DisplayHDR™ 400, Dolby Vision™, Eyesafe® Certified 2.0, TÜV Low Blue Light, X-Rite® Factory Color Calibration, 83.9% screen to body ratio, DC dimming |

#### Color Calibration

- X-Rite factory color calibration (WQUXGA display)
- No color calibration

#### Touchscreen

- On-cell multi-touch, supports 10-point touch (selected FHD display)
- Non-touch

Notes:

<sup>[1]</sup> California Electronic Waste Recycling Fee

In California USA, per state law, Lenovo charges an electronic waste recycling fee on this covered device at the time of sale of the product. For more information, please go to <https://www.calrecycle.ca.gov/Electronics/Consumer>.

<sup>[2]</sup> IPS (in-plane switching) technology may refer to IPS, PLS, ADS, AHVA, AAS.

### Input Device

#### Keyboard

6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, numeric keypad

#### Keyboard Backlight

LED backlight on optional keyboard

#### UltraNav™

3-button TrackPoint® pointing device and Mylar® surface multi-touch touchpad, 67.6 x 115 mm (2.66 x 4.53 inches)

### Mechanical

#### Dimensions (WxDxH)<sup>[1]</sup>

365 x 262 x 24.66 mm (14.37 x 10.31 x 0.97 inches)

**Weight<sup>[2]</sup>**

Starting at 2.2 kg (4.85 lbs)

**Case Color**

Thunder black

**Case Material**

PC-ABS (top), PC-ABS (bottom)

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

## CONNECTIVITY

### Network

**Ethernet**

No onboard Ethernet<sup>[1]</sup>

**WLAN + Bluetooth®**

Intel Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1 (Bluetooth 5.3 hardware ready)<sup>[2]</sup>

**WWAN\*\***

- Wireless WAN upgradable to 4G (with antenna ready)
- Fibocom L860-GL-16, 4G LTE CAT16, M.2 card, with embedded eSIM functionality
- No support

**SIM Card**

No physical SIM card inbox

**NFC**

- Near Field Communication
- No support

Notes:

[1] Ethernet support via optional docking or Lenovo USB-C to Ethernet Adapter.

[2] Bluetooth 5.3 is hardware ready but may run at a lower version due to OS limitations.

Wi-Fi 6E is only enabled on Windows 11 and operates as Wi-Fi 6 with Windows 10.

### Ports<sup>[1]</sup>

**Standard Ports**

- 2x USB 3.2 Gen 1 (one Always On)
- 2x Thunderbolt 4 / USB4® 40Gbps (support data transfer, Power Delivery 3.0 and DisplayPort™ 1.4)<sup>[2]</sup>
- 1x HDMI 2.1, up to 8K/60Hz
- 1x Headphone / microphone combo jack (3.5mm)
- 1x SD Express 7.0 card reader
- 1x Security keyhole

**Optional Ports**

- 1x Smart card reader
- 1x Nano-SIM card slot (WWAN support models)

Notes:

[1] The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.

USB 2.0: 480 Mbit/s;

USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;

USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;

USB4 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;

USB4 40Gbps (USB 40Gbps): 40 Gbit/s;

Thunderbolt 3/4: 40 Gbit/s.

[2] Power Delivery only supports power-out for charging peripherals.

## Docking

### Docking

Various docking solutions supported via Thunderbolt or USB-C.

For more compatible docking solutions, please visit

[Docking for ThinkPad® P16v Gen 1 \(Intel\)](#)

## Monitor Cable

### Monitor Cable

- Lenovo HDMI to VGA Monitor Adapter
- Lenovo USB-C to VGA Adapter
- Lenovo USB-C to DisplayPort Adapter
- No monitor cable

## SECURITY & PRIVACY

## Security

### Security Chip

Discrete TPM 2.0, TCG certified

### Physical Locks

Kensington® Nano Security Slot™, 2.5 x 6 mm

### Smart Card Reader

- Smart card reader
- No smart card reader

### Fingerprint Reader

Touch style fingerprint reader integrated in power button, match-on-chip

### BIOS Security

- Power-on password
- Supervisor password
- NVMe password
- Self-healing BIOS

### Other Security

- (Optional) Ultrasonic Human Presence Detection for IR camera
- (Optional) Camera privacy shutter
- Bottom cover tamper detection
- (Optional) IR camera for Windows Hello

## MANAGEABILITY

## System Management

### System Management

- Intel vPro® Enterprise<sup>[1]</sup>
- Non-vPro

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Notes:

[1] Intel vPro offers a superset of DASH's defined capabilities.

## SERVICE

## Warranty<sup>[1]</sup>

### Base Warranty\*\*

- 1-year courier or carry-in service
- 1-year courier or carry-in with 2-year system board service (Korea only)

- 1-year limited onsite service
- 3-year (1-yr battery) courier or carry-in service
- 3-year (1-yr battery) limited onsite service

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**Notes:**

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. For more service extensions, please go to <https://smartfind.lenovo.com/>. To learn more details of warranty policy, please access <https://pcsupport.lenovo.com/warranty>.

## ENVIRONMENTAL

### Sustainability

#### Material

- 85% PCC recycled plastic used in key caps
- 90% PCC recycled plastic used in speaker enclosure
- 90% PCC recycled plastic used in the battery
- 30% PCC recycled plastic used in 135W and 170W adapters
- 90% recycled and/or sustainable packaging

### Operating Environment

#### Temperature<sup>[1]</sup>

- Operating: 5°C (41°F) to 35°C (95°F)
- Storage and transportation in original shipping packaging: -20°C (-4°F) to 60°C (140°F)
- Storage without package: 5°C (41°F) to 43°C (109°F)

#### Humidity

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 5% to 95% at wet-bulb temperature 27°C (81°F)

#### Altitude

Maximum altitude (without pressurization): 3048 m (10,000 ft)

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**Notes:**

[1] When you charge the battery, its temperature must be no lower than 10°C (50°F).

## ACCESSORIES

### Bundled Accessories

#### Bundled Accessories

- Lenovo USB-C to Ethernet Adapter (1Gbps)
- None

## CERTIFICATIONS

### Green Certifications<sup>[1]</sup>

#### Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered<sup>[2]</sup>
- TCO Certified 9.0
- RoHS compliant

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**Notes:**

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

[2] EPEAT is registered where applicable, please see <https://www.epeat.net> for registration status by country.

### Other Certifications

#### Mil-Spec Test

MIL-STD-810H military test passed

### Other Certifications

- (Optional) Eyesafe Certified 2.0
- (Optional) TÜV Rheinland® Low Blue Light

### ISV Certifications

#### ISV Certifications

Please visit [ISV certifications for Lenovo Workstations](#)

- Feature with \*\* means that only one offering listed under the feature is configured on selected models.
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