## OVERVIEW

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<tr>
<td>1.</td>
<td>Power button</td>
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<tr>
<td>2.</td>
<td>Headphone / microphone combo jack (3.5mm)</td>
</tr>
<tr>
<td>3.</td>
<td>USB-C 3.2 Gen 1</td>
</tr>
<tr>
<td>4.</td>
<td>USB 3.2 Gen 1</td>
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<tr>
<td>5.</td>
<td>USB 3.2 Gen 1</td>
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<td>6.</td>
<td>Card reader *</td>
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<tr>
<td>7.</td>
<td>Line-out (3.5mm)</td>
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<td>8.</td>
<td>HDMI 1.4b</td>
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<td>9.</td>
<td>VGA</td>
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<tr>
<td>10.</td>
<td>2x USB 2.0</td>
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<tr>
<td>11.</td>
<td>Ethernet (RJ-45)</td>
</tr>
<tr>
<td>12.</td>
<td>2x USB 2.0</td>
</tr>
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<td>13.</td>
<td>Optional ports on expansion cards</td>
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<tr>
<td>14.</td>
<td>Optional ports on expansion cards</td>
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</tbody>
</table>

Notes:
- Ports with * are only available on selected models
PERFORMANCE

Processor
Processor Family
10th Generation Intel® Core™ i5 / i7 Processor

<table>
<thead>
<tr>
<th>Processor Name</th>
<th>Cores</th>
<th>Threads</th>
<th>Base Frequency</th>
<th>Max Frequency</th>
<th>Cache</th>
<th>Memory Support</th>
<th>Processor Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core i5-10400</td>
<td>6</td>
<td>12</td>
<td>2.9GHz</td>
<td>4.3GHz</td>
<td>12MB</td>
<td>DDR4-2666</td>
<td>Intel UHD Graphics 630</td>
</tr>
<tr>
<td>Core i5-10400F</td>
<td>6</td>
<td>12</td>
<td>2.9GHz</td>
<td>4.3GHz</td>
<td>12MB</td>
<td>DDR4-2666</td>
<td>-</td>
</tr>
<tr>
<td>Core i7-10700</td>
<td>8</td>
<td>16</td>
<td>2.9GHz</td>
<td>4.8GHz</td>
<td>16MB</td>
<td>DDR4-2933</td>
<td>Intel UHD Graphics 630</td>
</tr>
<tr>
<td>Core i7-10700F</td>
<td>8</td>
<td>16</td>
<td>2.9GHz</td>
<td>4.8GHz</td>
<td>16MB</td>
<td>DDR4-2933</td>
<td>-</td>
</tr>
</tbody>
</table>

Operating System
Operating System
- Windows® 10 Home 64
- Windows 10 Pro 64

Graphics
Graphics

<table>
<thead>
<tr>
<th>Graphics</th>
<th>Type</th>
<th>Memory</th>
<th>Connector</th>
<th>Max Resolution</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>NVIDIA® GeForce® GTX 1650 SUPER</td>
<td>Discrete</td>
<td>4GB GDDR6</td>
<td>1x HDMI 2.0b, 2x DP 1.4</td>
<td>7680x4320 @60Hz(DP)</td>
<td>DirectX® 12</td>
</tr>
<tr>
<td>NVIDIA GeForce GTX 1660 SUPER</td>
<td>Discrete</td>
<td>6GB GDDR6</td>
<td>1x DVI, 1x HDMI 2.0b, 1x DP 1.4</td>
<td>7680x4320@60Hz(DP)</td>
<td>DirectX 12</td>
</tr>
<tr>
<td>NVIDIA GeForce RTX™ 2060 CD</td>
<td>Discrete</td>
<td>6GB GDDR6</td>
<td>1x HDMI 2.0b, 3x DP 1.4</td>
<td>4096x2160@60Hz(HDMI), 7680x4320@60Hz with DSC(DP)</td>
<td>DirectX 12</td>
</tr>
</tbody>
</table>

Monitor Support
Monitor Support
Supports up to 2 independent displays via onboard ports (VGA and HDMI), more displays support via discrete graphics

Chipset
Chipset
Intel B460 chipset

Memory
Memory Type
- DDR4-2666
- DDR4-2933

Memory Slots
Two DDR4 UDIMM slots, dual-channel capable

Memory Protection
Non-ECC

Max Memory
Up to 32GB DDR4-2933

Notes:
1. The information of integrated graphics are not applicable for the models without integrated graphics (for the details, please refer to processor section)

Notes:
1. Installed memory is actually 2666MHz or 2933MHz, but may run at 2666MHz or 2933MHz depending on the memory support
Storage

Storage Support
Up to 2 drives, 1x 3.5" HDD + 1x M.2 SSD
- 3.5" HDD up to 1TB
- M.2 SSD up to 512GB

RAID
Not support

<table>
<thead>
<tr>
<th>Storage Type</th>
<th>Disk Type</th>
<th>Interface</th>
<th>RPM</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.5&quot; SATA HDD</td>
<td>SATA 6Gb/s</td>
<td>7.2K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M.2 2242 SSD</td>
<td>PCIe NVMe</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>M.2 2280 SSD</td>
<td>PCIe NVMe</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Removable Storage

Optical
None

Card Reader
- 3-in-1 card reader (SD, SDHC, SDXC)
- No card reader

Multi-Media

Audio Chip
High Definition (HD) Audio, Realtek® ALC222-CG codec

Power Supply

Power Supply

<table>
<thead>
<tr>
<th>Power</th>
<th>Type</th>
<th>Efficiency</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>310W</td>
<td>Fixed</td>
<td>92%</td>
<td>100V - 240V</td>
</tr>
<tr>
<td>380W</td>
<td>Fixed</td>
<td>92%</td>
<td>100V - 240V</td>
</tr>
</tbody>
</table>

DESIGN

Input Device

Keyboard
Lenovo Calliope Keyboard (USB connector), black

Mouse
Lenovo Calliope Mouse (USB connector), black

Mechanical

Form Factor
Tower (13.6L)

Dimensions (WxDxH)
145 x 292.2 x 365 mm (5.71 x 11.5 x 14.37 inches)

Weight
5.8 kg (12.79 lbs)

Case Color
Raven black

Bays
1x 2.5" disk bay
1x 3.5" disk bay

**Expansion Slots**
- One PCIe 3.0 x16, full height
- One PCIe 3.0 x1, full height
- Two M.2 slots (one for WLAN, one for SSD)

**Cooling System (Fan&Cooler)**
(Optional) Front system fan, rear system fan

**CONNECTIVITY**

**Network**

**Onboard Ethernet**
Gigabit Ethernet, 1x RJ45

**WLAN + Bluetooth™**
- 802.11ac 2x2 Wi-Fi + Bluetooth 5.0, M.2 Card
- 802.11ax 2x2 Wi-Fi + Bluetooth 5.0, M.2 Card

**Ports**

**Front Ports**
- 2x USB 3.2 Gen 1
- 1x USB-C 3.2 Gen 1
- 1x headphone / microphone combo jack (3.5mm)

**Optional Front Ports**
1x card reader

**Rear Ports**
- 4x USB 2.0
- 1x Ethernet (RJ-45)
- 1x HDMI 1.4b
- 1x VGA
- 1x headphone / microphone combo jack (3.5mm)

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;
   - USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
   - Thunderbolt™ 3: 40 Gbit/s;
   - FireWire 400: 400 Mbit/s;
   - FireWire 800: 800 Mbit/s
2. For video ports on discrete graphics, please see graphics section

**SECURITY & PRIVACY**

**Security**

**BIOS Security**
- Power-on password
- Administrator password
- Hard disk password

**SERVICE**

**Warranty**

**Base Warranty**
- 1-year mail-in service
ENVIROMENTAL

Operating Environment

Temperature
Storage and transportation: -40°C to 55°C (-40°F to 131°F)

Humidity
Operating: 20% to 80% (non-condensing)
Storage: 20% to 93% (non-condensing)

Atmospheric Pressure
86 kPa to 106 kPa

CERTIFICATIONS

Green Certifications

- ENERGY STAR® 8.0 (On some models)
- ErP Lot 3
- RoHS compliant