Notes, cautions, and warnings

- **NOTE**: A NOTE indicates important information that helps you make better use of your product.
- **CAUTION**: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.
- **WARNING**: A WARNING indicates a potential for property damage, personal injury, or death.
## Contents

1 Set up your computer.................................................................................................................................5

2 Chassis.......................................................................................................................................................9
   Front chassis view.................................................................................................................................9
   Back chassis view...............................................................................................................................10
   Left chassis view...............................................................................................................................11
   Right chassis view............................................................................................................................12
   Bottom chassis view..........................................................................................................................12
   Transform...............................................................................................................................................12
      Height Adjustable stand...................................................................................................................13
      Articulating stand............................................................................................................................13
   Pop-Up Camera - optional....................................................................................................................14

3 System specifications.................................................................................................................................15
   Processor..................................................................................................................................................15
   Memory...................................................................................................................................................16
   Storage...................................................................................................................................................16
   Audio....................................................................................................................................................17
   Video controller.....................................................................................................................................18
   Web camera............................................................................................................................................18
   Communications - Integrated.............................................................................................................19
   External ports and connectors............................................................................................................19
   Display..................................................................................................................................................19
   Power....................................................................................................................................................20
   Physical system dimensions...............................................................................................................22
   Environmental.....................................................................................................................................23

4 System setup.............................................................................................................................................24
   BIOS overview......................................................................................................................................24
   Navigation keys.....................................................................................................................................25
   Boot Sequence......................................................................................................................................25
   Entering BIOS setup program..............................................................................................................25
   General screen options.......................................................................................................................26
   System configuration screen options................................................................................................27
   Security screen options.......................................................................................................................28
   Secure boot screen options................................................................................................................29
   Intel Software Guard Extensions screen options.................................................................................30
   Performance screen options...............................................................................................................31
   Power Management screen options..................................................................................................31
   POST Behavior screen options........................................................................................................33
   Manageability......................................................................................................................................33
   Virtualization support screen options...............................................................................................34
   Wireless screen options......................................................................................................................34
### Contents

- Maintenance screen options........................................................................................................... 34
- System Log screen options............................................................................................................... 35
- Advanced configuration options........................................................................................................ 35
- System and setup password.............................................................................................................. 35  
  - Assigning a system setup password............................................................................................. 35
  - Deleting or changing an existing system setup password............................................................... 36

5 **Software**................................................................................................................................... 37
- Supported operating systems........................................................................................................... 37
- Downloading drivers......................................................................................................................... 37
- Intel chipset drivers.......................................................................................................................... 38
- Display adapter drivers.................................................................................................................... 40
- Audio drivers................................................................................................................................... 40
- Network drivers............................................................................................................................... 40
- Camera drivers............................................................................................................................... 40
- Storage drivers............................................................................................................................... 40
- Security drivers............................................................................................................................... 41
- Bluetooth drivers............................................................................................................................. 41
- USB drivers...................................................................................................................................... 41

6 **Getting help**............................................................................................................................... 42
- Contacting Dell................................................................................................................................ 42
1 Set up the stand.

*Height Adjustable stand*
Articulating stand

NOTE: The stand comes assembled in the box.
2 Set up the keyboard and mouse.

**NOTE:** See the documentation that shipped with the keyboard and mouse.

3 Route the cable through the stand, then connect the power cable.

**Height Adjustable stand**

4 Press the power button.
Set up your computer
Chassis

Topics:
- Front chassis view
- Back chassis view
- Left chassis view
- Right chassis view
- Bottom chassis view
- Transform
- Pop-Up Camera - optional

Front chassis view

1. Full high-definition (FHD) camera (optional)
2. FHD infrared (IR) camera (optional)
3. IR emitters (optional)
4. Camera status light (optional)
5. FHD camera (optional)
6. Camera status light (optional)
7. Speakers
8. Power button/Power-status light
Back chassis view

1. Back cover
2. Security lock slot
3. Base cover
4. Stand

1. HDMI-out port (with discrete graphics card)
2. HDMI-in port (optional)
3. HDMI-out port (with integrated graphics card)
4. DisplayPort
5. Network port
6. USB 3.1 Gen 1 ports with Power on/Wake-up support
7. Audio out port
8. Power connector port
9. USB 3.1 Gen 1 ports
10. Power supply diagnostic light
Left chassis view

1. SD card reader
2. USB 3.1 Gen 2 Type-C port
3. Headset/Universal audio port
4. USB 3.1 Gen 1 port with PowerShare
Right chassis view

1 Hard drive activity light

Bottom chassis view

1 Service Tag label
2 Display Built-in Self Test button/Video input selection

Transform
Height Adjustable stand

Articulating stand
Pop-Up Camera - optional

1. **NOTE:** Extend the camera while using any camera function so that the camera is not blocked.
System specifications

**NOTE:** Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to Help and Support in your Windows operating system and select the option to view information about your computer.

Topics:
- Processor
- Memory
- Storage
- Audio
- Video controller
- Web camera
- Communications - Integrated
- External ports and connectors
- Display
- Power
- Physical system dimensions
- Environmental

**Processor**

Global Standard Products (GSP) are a subset of Dell's relationship products that are managed for availability and synchronized transitions on a worldwide basis. They ensure the same platform is available for purchase globally. This allows customers to reduce the number of configurations managed on a worldwide basis, thereby reducing their costs. They also enable companies to implement global IT standards by locking in specific product configurations worldwide. The following GSP processors identified below will be made available to Dell customers.

Device Guard (DG) and Credential Guard (CG) are the security features available on Windows 10 Enterprise. Device Guard is a combination of enterprise-related hardware and software security features, when configured together, will lock a device down so that it can only run trusted applications. Credential Guard uses virtualization-based security to isolate secrets (credentials) so that only privileged system software can access them. Unauthorized access to these secrets can lead to credential theft attacks. Credential Guard prevents these attacks by protecting NTLM password hashes and Kerberos Ticket Granting Tickets.

**NOTE:** Processor numbers are not a measure of performance. Processor availability is subject to change and may vary by region/country.

**Table 1. Processor specifications**

| Type | 
|---|---|
| Intel Core i3 - 8100 (4 Cores/6MB/4T/3.6GHz/65W) | 
| Intel Core i3 - 8300 (4 Cores/8MB/4T/3.7GHz/65W) | 
| Intel Core i5 - 8400 (6 Cores/9MB/6T/up to 4.0GHz/65W) | 
| Intel Core i5 - 8500 (6 Cores/9MB/6T/up to 4.1GHz/65W) | 
| Intel Core i5 - 8600 (6 Cores/9MB/6T/up to 4.3GHz/65W) | 


**Type**

Intel Core i7 - 8700 (6 Cores/12MB/12T/up to 4.6GHz/65W)

---

**Memory**

**Table 2. Memory specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum memory configuration</td>
<td>4 GB (1 x 4GB module)</td>
</tr>
<tr>
<td>Maximum memory configuration</td>
<td>32 GB</td>
</tr>
<tr>
<td>Number of slots</td>
<td>2 SODIMM</td>
</tr>
<tr>
<td>Maximum memory supported per slot</td>
<td>16 GB</td>
</tr>
<tr>
<td>Memory options</td>
<td>• 4 GB - 1 x 4 GB</td>
</tr>
<tr>
<td></td>
<td>• 8 GB - 1 x 8 GB</td>
</tr>
<tr>
<td></td>
<td>• 8 GB - 2 x 4 GB</td>
</tr>
<tr>
<td></td>
<td>• 16 GB - 1 x 16 GB</td>
</tr>
<tr>
<td></td>
<td>• 16 GB - 2 x 8 GB</td>
</tr>
<tr>
<td></td>
<td>• 32 GB - 2 x 16 GB</td>
</tr>
<tr>
<td>Type</td>
<td>DDR4 SDRAM Non-ECC memory</td>
</tr>
<tr>
<td>Speed</td>
<td>• 2666 MHz</td>
</tr>
<tr>
<td></td>
<td>• 2400 MHz on i3 processor</td>
</tr>
</tbody>
</table>

*(NOTE: Intel Optane Memory does not replace DDR memory or add to RAM capacity.)*

---

**Storage**

**Table 3. Storage specifications**

<table>
<thead>
<tr>
<th>Primary/Boot drive</th>
<th>Form Factor</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Solid-State Drive (SSD)</td>
<td>M.2 2280</td>
<td>• Up to 512 GB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Up to 2 TB</td>
</tr>
<tr>
<td>One 2.5 inch Hard-Disk Drive (HDD)</td>
<td>Approximately (2.760 x 3.959 x 0.374 inches)</td>
<td>Up to 2 TB</td>
</tr>
<tr>
<td>One 2.5 inch Solid-State Hybrid Drive (SSHD)</td>
<td>Approximately (2.760 x 3.959 x 0.276 inches)</td>
<td>Up to 1 TB</td>
</tr>
</tbody>
</table>

**Table 4. Storage configurations**

<table>
<thead>
<tr>
<th>Primary/Boot drive</th>
<th>Form Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x M.2 Drive</td>
<td>NA</td>
</tr>
<tr>
<td>1 x M.2 Drive</td>
<td>1 x 2.5 inch Drive</td>
</tr>
<tr>
<td>1 x 2.5 inch Drive</td>
<td>NA</td>
</tr>
<tr>
<td>1 x 2.5 inch HDD with M.2 Optane</td>
<td>NA</td>
</tr>
</tbody>
</table>
NOTE: Supports RAID 0 and 1 with M.2 and 2.5" HDD.

For optimal performance when configuring drives as a RAID volume, Dell recommends drive models that are identical.

RAID 0 (Striped, Performance) volumes benefit from higher performance when drives are matched because the data is split across multiple drives: any IO operations with block sizes larger than the stripe size will split the IO and become constrained by the slowest of the drives. For RAID 0 IO operations where block sizes are smaller than the stripe size, whichever drive the IO operation targets will determine the performance, which increases variability and results in inconsistent latencies. This variability is particularly pronounced for write operations and it can be problematic for applications that are latency sensitive. One such example of this is any application that performs thousands of random writes per second in very small block sizes.

RAID 1 (Mirrored, Data Protection) volumes benefit from higher performance when drives are matched because the data is mirror across multiple drives: all IO operations must be performed identically to both drives, thus variations in drive performance when the models are different results in the IO operations completing only as fast as the slowest drive. While this does not suffer the variable latency issue in small random IO operations as with RAID 0 across heterogeneous drives, the impact is nonetheless large because the higher performing drive becomes limited in all IO types. One of the worst examples of constrained performance here is when using unbuffered IO. To ensure writes are fully committed to non-volatile regions of the RAID volume, unbuffered IO bypasses cache (for example by using the Force Unit Access bit in the NVMe protocol) and the IO operation will not complete until all the drives in the RAID volume have completed the request to commit the data. This kind of IO operation completely negates any advantage of a higher performing drive in the volume.

Care must be taken to match not only the drive vendor, capacity, and class, but also the specific model. Drives from the same vendor, with the same capacity, and even within the same class, can have very different performance characteristics for certain types of IO operations. Thus, matching by model ensures that the RAID volumes is comprised of an homogeneous array of drives that will deliver all the benefits of a RAID volume without incurring the additional penalties when one or more drives in the volume are lower performing.

When RAID is used for two non-identical drives (i.e. M.2 + 2.5 inch), performance will be at the speed of the slower drive in the array.

Audio

Table 5. Audio

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Realtek ALC3289 High Definition Audio</strong></td>
<td></td>
</tr>
<tr>
<td>High Definition Stereo support</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of channels</td>
<td>2</td>
</tr>
<tr>
<td>Number of Bits / Audio resolution</td>
<td>16, 20, and 24-bit resolution</td>
</tr>
<tr>
<td>Sampling rate (recording/playback)</td>
<td>Support 44.1K/48K/96K/192 kHz sample rates</td>
</tr>
<tr>
<td>Signal to Noise Ratio</td>
<td>96 dB DAC outputs, 92 dB for ADC inputs</td>
</tr>
<tr>
<td>Analog Audio</td>
<td>Yes</td>
</tr>
<tr>
<td>Waves MaxxAudio Pro</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Audio Jack Impedance**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microphone</td>
<td>40K ohm~60K ohm</td>
</tr>
<tr>
<td>Line-In</td>
<td>N/A</td>
</tr>
<tr>
<td>Line-Out</td>
<td>100~150 ohm</td>
</tr>
<tr>
<td>Headphone</td>
<td>1~4 ohm</td>
</tr>
<tr>
<td>Internal Speaker Power Rating</td>
<td>3 Watt (average) / 4 Watt (peak)</td>
</tr>
</tbody>
</table>
Video controller

Table 6. Video

<table>
<thead>
<tr>
<th>Controller</th>
<th>Type</th>
<th>Graphics memory type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel UHD Graphics 630</td>
<td>UMA</td>
<td>Integrated</td>
</tr>
<tr>
<td>NVIDIA GeForce GTX 1050, 4GB</td>
<td>Discrete</td>
<td>GDDR5</td>
</tr>
</tbody>
</table>

Table 7. Video port resolution matrix

<table>
<thead>
<tr>
<th></th>
<th>DisplayPort 1.2</th>
<th>HDMI 1.4</th>
<th>HDMI 2.0b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max resolution -</td>
<td>4096x2160</td>
<td>2560x1600 @ 24Hz</td>
<td>2560x1600 @ 24Hz</td>
</tr>
<tr>
<td>Single display</td>
<td></td>
<td>4096x2160 @ 24Hz</td>
<td>4096x2160 @ 24Hz</td>
</tr>
<tr>
<td>Max resolution -</td>
<td>2560x1600</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Dual MST</td>
<td>3440x1440</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Max Resolution -</td>
<td>2560x1080</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Dual MST</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All resolutions shown at 24bpp and unless specifically stated are @60Hz refresh

Web camera

Table 8. Web camera (optional)

<table>
<thead>
<tr>
<th>Feature</th>
<th>2.0 MP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Resolution</td>
<td></td>
</tr>
<tr>
<td>Camera type</td>
<td></td>
</tr>
<tr>
<td>• FHD</td>
<td></td>
</tr>
<tr>
<td>• FHD + Infrared (IR)</td>
<td></td>
</tr>
<tr>
<td>Video Resolution</td>
<td></td>
</tr>
<tr>
<td>• FHD - 1080p</td>
<td></td>
</tr>
<tr>
<td>• FHD + IR - 1080p + VGA</td>
<td></td>
</tr>
<tr>
<td>Diagonal Viewing Angle</td>
<td></td>
</tr>
<tr>
<td>• FHD - 74.9°</td>
<td></td>
</tr>
<tr>
<td>• IR - 88°</td>
<td></td>
</tr>
<tr>
<td>Power Saving Support</td>
<td>Suspend, Hibernation</td>
</tr>
<tr>
<td>Automatic Image Control</td>
<td></td>
</tr>
<tr>
<td>Automatic Exposure Control (AE)</td>
<td></td>
</tr>
<tr>
<td>Automatic White Balance Control (AWB)</td>
<td></td>
</tr>
<tr>
<td>Automatic Gain Control (AGC)</td>
<td></td>
</tr>
<tr>
<td>Webcam Mechanical Privacy</td>
<td>Pop up camera</td>
</tr>
</tbody>
</table>
Communications - Integrated

Table 9. Communications - Integrated

| Network adapter | Integrated Intel i219-LM 10/100/1000 Mb/s Ethernet (RJ-45) with Intel Remote Wake UP and PXE |

External ports and connectors

Table 10. External ports and connectors

<table>
<thead>
<tr>
<th>USB 3.1 Type A Gen1 (Side/Rear/Internal)</th>
<th>1/4/0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One USB 3.1 Gen 1 port with PowerShare (side)</td>
<td></td>
</tr>
<tr>
<td>• Two USB 3.1 Gen 1 ports with Power on/Wake-up support (rear)</td>
<td></td>
</tr>
<tr>
<td>• Two USB 3.1 Gen 1 ports (rear)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USB 3.1 Type C Gen 2 (Side/Rear/Internal)</th>
<th>1/0/0</th>
</tr>
</thead>
<tbody>
<tr>
<td>One USB 3.1 Gen 2 Type-C port (side)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Network Connector (RJ-45)</th>
<th>1 Rear</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>HDMI 1.4 Out</th>
<th>1 Rear (Integrated graphics configurations)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>HDMI-In (Optional)</th>
<th>1 Rear</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>HDMI 2.0 Out</th>
<th>1 Rear (Discrete graphics configurations)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DisplayPort 1.2</th>
<th>1 Rear</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Universal Audio Jack</th>
<th>1 Side</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Line-Out for headphones or speakers</th>
<th>1 Rear</th>
</tr>
</thead>
</table>

Display

Table 11. Display specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Full HD (FHD) touch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full HD (FHD) Non-Touch</td>
</tr>
<tr>
<td></td>
<td>4K Ultra HD non-touch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Screen size (Diagonal)</th>
<th>27 inch</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Screen technology</th>
<th>IPS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Display</th>
<th>WLED</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Native resolution</th>
<th>FHD - 1920 x 1080</th>
</tr>
</thead>
</table>
High definition
- Full HD
- Ultra HD

Luminance
- FHD Touch - 200 cd/m
- FHD Non-touch - 250 cd/m
- 4K UHD Non-touch - 350 cd/m

Active area dimensions
- FHD - 597.89 mm x 336.31 mm
- UHD - 596.74 mm x 335.66 mm

Height
- FHD - 336.31 mm
- UHD - 335.66 mm

Width
- FHD - 597.89 mm
- UHD - 596.74 mm

Megapixels
- FHD - 2M
- 4K UHD - 8.3M

Pixels Per Inch (PPI)
- FHD - 82
- 4K UHD - 163

Pixel pitch
- FHD - 0.3114 mm x 0.3114 mm
- 4K UHD - 0.1554 mm x 0.1554 mm

Color depth
- FHD - 16.7 M
- 4K UHD - 1.07 B

Contrast ratio (min)
- FHD - 600
- 4K UHD - 910

Contrast ratio (typical)
- FHD - 1000
- 4K UHD - 1350

Response time (max)
25 min-sec

Refresh rate
60 Hz

Horizontal viewing angle
178 degrees

Vertical viewing angle
178 degrees

Power

Table 12. Power

<table>
<thead>
<tr>
<th>Power Supply Wattage</th>
<th>240W EPA Platinum</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC input Voltage Range</td>
<td>90 – 264 Vac</td>
</tr>
</tbody>
</table>
AC input current (low AC range/high AC range) 3.6A/1.8A
AC input Frequency 47HZ - 63HZ
AC holdup time (80% load) 16 mini sec
Average Efficiency 90-92-89% @ 20-50-100% load
Typical Efficiency (Active PFC) N/A

DC parameters
+12.0 v output NA
+19.5 v output 19.5VA - 8.5A and 19.5VB - 10.5A
+19.5 v output auxiliary output 19.5VA - 0.5A and 19.5VB - 1.75A
Standby mode 19.5VA - 0.5A and 19.5VB - 1.75a
Max total power 240 W
Max combined 12.0 v power (note: only if more than one 12 v rail) N/A
BTUs/h (based on PSU max wattage) 819 BTU
Power Supply Fan N/A

Compliance
Erp Lot6 Tier 2 0.5watt requirement Yes
Climate Savers / 80Plus Compliant Yes
Energy Star 6.1 Qualified Yes
FEMP Standby Power Compliant Yes

Table 13. Thermal Dissipation

<table>
<thead>
<tr>
<th>Power</th>
<th>Graphics</th>
<th>Heat dissipation</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>240W</td>
<td>Discrete gfx</td>
<td>240 * 3.4125 = 819 BTU/hr</td>
<td>100 to 240 VAC, 50 to 60 Hz, 3.6A/1.8 A</td>
</tr>
</tbody>
</table>

Table 14. CMOS battery

3.0v CMOS battery (Type and estimated battery life)

<table>
<thead>
<tr>
<th>Brand</th>
<th>Type</th>
<th>Voltage</th>
<th>Composition</th>
<th>Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIC-DAWN</td>
<td>CR-2032</td>
<td>3V</td>
<td>Lithium</td>
<td>Continuous Discharge. Under 30 kΩ Load till 2.0V End-Voltage at the temperature of 23°C ±3°C. The batteries should be submitted to 150 temperature cycles from 60°C~10°C, and then be stored for more than 24 hours at 23°C ±3°C.</td>
</tr>
<tr>
<td>JHIH HONG</td>
<td>CR-2032</td>
<td>3V</td>
<td>Lithium</td>
<td>Continuous Discharge. Under 15 kΩ Load to 2.5V End-Voltage.</td>
</tr>
</tbody>
</table>
### 3.0v CMOS battery (Type and estimated battery life)

<table>
<thead>
<tr>
<th>MITSUBISHI</th>
<th>CR-2032</th>
<th>3V</th>
<th>Lithium</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Continuous Discharge Under 15 kΩ Load to 2.0V End-Voltage.**
  - $20^\circ C \pm 2^\circ C$: 940Hrs or longer; 910Hrs or longer after 12 months.
  - $0^\circ C \pm 2^\circ C$: 910Hrs or longer; 890Hrs or longer after 12 months.

### Physical system dimensions

**NOTE:** System weight and shipping weight is based on a typical configuration and may vary based on PC configuration. A typical configuration includes: integrated graphics and one hard drive.

#### Table 15. System dimensions

**Non-touch chassis weight without stand (pounds / kilograms):**
- Height (inches / centimeters): 18.54 / 8.41
- Width (inches / centimeters): 19.03 / 8.63
- Depth (inches / centimeters): 24.17 / 61.40

**Non-touch chassis dimensions (system without stand):**
- Height (inches / centimeters): 15.31 / 38.90
- Width (inches / centimeters): 24.17 / 61.40
- Depth (inches / centimeters): 2.28 / 5.80 (UHD), 2.27 / 5.77 (FHD)

**Touch chassis dimensions (system without stand):**
- Height (inches / centimeters): 15.31 / 38.9
- Width (inches / centimeters): 24.17 / 61.4
- Depth (inches / centimeters): 2.28 / 5.8 (UHD), 2.27 / 5.77 (FHD)

**Height adjustable stand dimensions**
- Width x Depth (inches / centimeters): 11.30 x 10.03 / 28.70 x 25.48
- Weight (pounds / kilograms): 7.10 / 3.22

**Articulating stand dimensions**
- Height (inches / centimeters): 23.35 cm
Width x Depth (inches / centimeters) | 10.69 x 10.68 / 27.15 x 27.13
Weight (pounds / kilograms) | 9.79 / 4.44

**Packaging parameters with height adjustable stand**

Height (inches / centimeters) | 21.57 / 54.80
Width (inches / centimeters) | 36.14 / 91.80
Depth (inches / centimeters) | 8.50 / 21.60
Shipping weight (pounds / kilograms - includes packaging materials) | 35.27 / 16.0

**Packaging parameters with articulating stand**

Height (inches / centimeters) | 21.77 x 55.30
Width (inches / centimeters) | 28.50 / 72.40
Depth (inches / centimeters) | 10.20 / 25.90
Shipping weight (pounds / kilograms - includes packaging materials) | 37.48 / 17.00

**Environmental**

> **NOTE:** For more details on Dell Environmental features, please go to Environmental Attributes section. See your specific region for availability.

**Table 16. Environmental**

- Recyclable packaging: Yes
- BFR/PVC—free chassis: No
- Vertical orientation packaging support: Yes
- MultiPack packaging: Select countries
- Energy Efficient Power Supply: Yes
System setup

System setup enables you to manage your desktop hardware and specify BIOS level options. From the System setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Topics:
- BIOS overview
- Navigation keys
- Boot Sequence
- Entering BIOS setup program
- General screen options
- System configuration screen options
- Security screen options
- Secure boot screen options
- Intel Software Guard Extensions screen options
- Performance screen options
- Power Management screen options
- POST Behavior screen options
- Manageability
- Virtualization support screen options
- Wireless screen options
- Maintenance screen options
- System Log screen options
- Advanced configuration options
- System and setup password

**BIOS overview**

⚠️ **CAUTION:** Unless you are an expert computer user, do not change the settings in the BIOS Setup program. Certain changes can make your computer work incorrectly.

⚠️ **NOTE:** Before you change BIOS Setup program, it is recommended that you write down the BIOS Setup program screen information for future reference.

Use the BIOS Setup program for the following purposes:

- Get information about the hardware installed in your computer, such as the amount of RAM and the size of the hard drive.
- Change the system configuration information.
- Set or change a user-selectable option, such as the user password, type of hard drive installed, and enabling or disabling base devices.
Navigation keys

NOTE: For most of the System Setup options, changes that you make are recorded but do not take effect until you restart the system.

<table>
<thead>
<tr>
<th>Keys</th>
<th>Navigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up arrow</td>
<td>Moves to the previous field.</td>
</tr>
<tr>
<td>Down arrow</td>
<td>Moves to the next field.</td>
</tr>
<tr>
<td>Enter</td>
<td>Selects a value in the selected field (if applicable) or follow the link in the field.</td>
</tr>
<tr>
<td>Spacebar</td>
<td>Expands or collapses a drop-down list, if applicable.</td>
</tr>
<tr>
<td>Tab</td>
<td>Moves to the next focus area.</td>
</tr>
</tbody>
</table>

NOTE: For the standard graphics browser only.

Esc         | Moves to the previous page until you view the main screen. Pressing Esc in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.

Boot Sequence

Boot Sequence allows you to bypass the System Setup–defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:

- Access System Setup by pressing F2 key
- Bring up the one-time boot menu by pressing F12 key

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot menu options are:

- Removable Drive (if available)
- STXXXX Drive
  
  NOTE: XXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics
  
  NOTE: Choosing Diagnostics, will display the ePSA diagnostics screen.

The boot sequence screen also displays the option to access the System Setup screen.

Entering BIOS setup program

1. Turn on (or restart) your computer.
2. During POST, when the DELL logo is displayed, watch for the F2 prompt to appear, and then press F2 immediately.

NOTE: The F2 prompt indicates that the keyboard is initialized. This prompt can appear very quickly, so you must watch for it, and then press F2. If you press F2 before the F2 prompt, this keystroke is lost. If you wait too long and the operating system logo appears, continue to wait until you see the desktop. Then, turn off your computer and try again.
General screen options

This section lists the primary hardware features of your computer.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| **System Information** | • System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, and the Express Service Code.  
                      • Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology, DIMM A Size, DIMM B Size.  
                      • PCI information: Displays SLOT 1 and SLOT 2  
                      • Processor Information: Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable, and 64-Bit technology.  
                      • Device Information: Displays SATA-0, SATA-1, LOM MAC Address, Video Controller, dGPU Video Controller, Audio Controller, Wi Fi Device, and Bluetooth Device. |

**Boot Sequence**  

Boot Sequence  

Allows you to specify the order in which the computer attempts to find an operating system. To change the boot order, select the device that you want to change in the list, which is available on the right-hand side. After you select the device, click up or down arrows or use your keyboard Page Up or Page Down keys to change the boot options order. You can also select or de-select from the list using the check-boxes available on the left hand side. You should enable the Legacy Option ROMs to setup the Legacy boot mode. This Legacy boot mode is not allowed when you enable the Secure Boot. The options are:

• Boot Sequence - By default, the Windows Boot Manager check box is selected.

   ![NOTE](https://example.com/note.png)

   **NOTE:** The default option might differ based on the operating system of your computer.

• Boot List Option - The list options are Legacy and UEFI. By default, the option UEFI is selected.

   ![NOTE](https://example.com/note.png)

   **NOTE:** The default option might differ based on the operating system of your computer.

• Add Boot Option - Enables you to add a boot option.

• Delete Boot Option - Enables you to delete an existing boot option.

• View - Enables you to view the current boot option in the computer.

• Restore Settings - Restores the default settings of the computer.

• Save Settings - Saves the settings of the computer.

• Apply - Enables you to apply the settings.

• Exit - Exits and starts the computer.

**Boot List Options**  

Allows you to change the boot list option:

• Legacy

• UEFI (enabled by default)

**UEFI Boot Path Security**  

The option controls whether or not the system prompts the user to enter the Admin password (if set) when booting a UEFI boot path from the F12 Boot Menu.

• Always, Except Internal HDD

• Always
Option | Description
--- | ---
Advanced Boot Options | This option allows you the legacy option ROMs to load. By default, the Enable Legacy Option ROMs is disabled.

- Restore Settings - Restores the default settings of the computer
- Save Settings - Saves the settings of the computer
- Apply - Enables you to apply the settings
- Exit - Exits and starts the computer

Date/Time | Allows you to change the date and time.

System configuration screen options

Option | Description
--- | ---
Integrated NIC | If you enable UEFI network stack, UEFI network protocols will be available. UEFI network allows pre-os and early os networking features to use NICs that are enabled. This may be used without PXE turned on. When you enable Enabled w/PXE, the type of PXE boot (Legacy PXE or UEFI PXE) depends on the current boot mode and type of option ROMs in use. The UEFI Network Stack is required in order to have UEFI PXE functionality fully enabled.

- Enabled UEFI Network Stack - This option is disabled by default.

Allows you to configure the integrated network controller. The options are:

- Disabled
- Enabled
- Enabled w/PXE: This option is enabled by default.
- Enabled w/Cloud Desktop

**NOTE:** Depending on the computer and its installed devices, the items listed in this section may or may not appear.

SATA Operation | Allows you to configure the internal SATA hard-drive controller. The options are:

- Disabled
- AHCI
- RAID On: This option is enabled by default.

Drives | Allows you to configure the SATA drives on board. All drives are enabled by default. The options are:

- SATA-0
- SATA-1
- SATA-4
- M.2 PCIe SSD-0

SMART Reporting | This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the SMART (Self Monitoring Analysis and Reporting Technology) specification. This option is disabled by default.

- Enable SMART Reporting

USB Configuration | This field configures the integrated USB controller. If Boot Support is enabled, the system is allowed to boot any type of USB Mass Storage Devices (HDD, memory key, floppy).
Option Description
If USB port is enabled, device attached to this port is enabled and available for OS.
If USB port is disabled, the OS cannot see any device attached to this port.
The options are:
- Enable USB Boot Support
- Enable Rear USB Ports: Include options for 6 ports
- Enable Side USB Ports: Include options for 2 ports
All the options are enabled by default.

**NOTE:** USB keyboard and mouse always work in the BIOS setup irrespective of these settings.

<table>
<thead>
<tr>
<th>Rear USB Configuration</th>
<th>This field allows you to enable or disable rear USB ports.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enable/Disable Rear USB Ports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Side USB Configuration</th>
<th>This field allows you to enable or disable side USB ports.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enable/Disable Side USB Ports</td>
</tr>
</tbody>
</table>

| USB PowerShare         | This field configures the USB PowerShare feature behavior. This option allows you to charge external devices using the stored system battery power through the USB PowerShare port. |

<table>
<thead>
<tr>
<th>Audio</th>
<th>This field enables or disables the integrated audio controller. By default, the Enable Audio option is selected. The options are:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enable Microphone (by default enable)</td>
</tr>
<tr>
<td></td>
<td>Enable Internal Speaker (by default enable)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSD Button Management</th>
<th>This field allows you to enable or disable the OSD (On-Screen Display) buttons on the All-In-One system.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disable OSD buttons: This option is unchecked by default.</td>
</tr>
</tbody>
</table>

| Touchscreen            | This option allows you to enable or disable touchscreen.                                                      |

<table>
<thead>
<tr>
<th>Miscellaneous Devices</th>
<th>Allows you to enable or disable the following devices:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enable Camera (enabled by default)</td>
</tr>
<tr>
<td></td>
<td>Enable Media Card (enabled by default)</td>
</tr>
<tr>
<td></td>
<td>Disable Media Card</td>
</tr>
</tbody>
</table>

**Security screen options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin Password</td>
<td>Allows you to set, change, or delete the administrator (admin) password. <strong>NOTE:</strong> You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password. <strong>NOTE:</strong> Successful password changes take effect immediately.</td>
</tr>
<tr>
<td></td>
<td>Default setting: Not set</td>
</tr>
<tr>
<td>System Password</td>
<td>Allows you to set, change or delete the system password.</td>
</tr>
</tbody>
</table>
Option | Description
--- | ---
Internal HDD-0 Password | Allows you to set, change or delete the system’s internal hard disk’s password.
Default setting: Not set

**NOTE:** Successful password changes take effect immediately.

Strong Password | Allows you to enforce the option to always set strong passwords.
Default Setting: Enable Strong Password is not selected.

**NOTE:** If Strong Password is enabled, Admin and System passwords must contain at least one uppercase character, one lowercase character and be at least 8 characters long.

Password Configuration | Allows you to determine the minimum and maximum length of Administrator and System passwords.

Password Bypass | Allows you to enable or disable the permission to bypass the System and the Internal HDD password, when they are set. The options are:

- Disabled
- Reboot bypass

Default setting: Disabled

Password Change | Allows you to enable the disable permission to the System and Hard Drive passwords when the admin password is set.
Default setting: **Allow Non-Admin Password Changes** is selected.

UEFI Capsule firmware Updates | This option controls if the system allows BIOS updates via UEFI capsule update package.

- Default setting: **Enable UEFI Capsule Firmware Updates** is selected.

TPM 2.0 Security | Allows you to enable the Trusted Platform Module (TPM) during POST. This option is enabled by default. The options are:

- TPM On (Default)
- Clear
- PPI Bypass for Enabled Commands
- PPI Bypass for Disabled Commands
- PPI Bypass for Clear Commands
- Attestation Enable (Default)
- Key Storage Enable (Default)
- SHA - 256 (Default)

**NOTE:** Activation, deactivation, and clear options are not affected if you load the setup program's default values. Changes to this option take effect immediately.

Computrace (R) | Allows you to activate or disable the optional Computrace software. The options are:

- Deactivate
- Disable
- Activate
Option          Description
NOTE: The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed
Default setting: Deactivate

Chassis Intrusion
This field controls the chassis intrusion feature. The options are:

- Disabled
- Enabled
Default setting: Disabled

OROM Keyboard Access
Allows you to set an option to enter the Option ROM Configuration screens using hotkeys during boot. The options are:

- Enabled
- One Time Enable
- Disabled
Default setting: Enable

Admin Setup Lockout
Allows you to enable or disable the option to enter setup when an admin password is set.

- Enable Admin Setup Lockout - This option is disabled by default.

Master Password Lockout
When enabled this option will disable master password support. Hard Disk passwords need to be cleared before the setting can be changed.

- Enable Master Password Lockout

SMM Security Mitigation
This option enables or disables additional UEFI SMM Security Mitigation protections.

- SMM Security Mitigation

Secure boot screen options

Option          Description
Secure Boot Enable
This option enables or disables the Secure Boot feature.

- Disabled
- Enabled
Default setting: Enabled.

Secure Boot Mode
Changes to the Secure Boot operation mode and modifies the behavior of Secure Boot to allow evaluation or enforcement of UEFI driver signatures.

- Deployed Mode - This option is enabled by default
- Audit mode

Expert Key Management
Allows you to manipulate the security key databases only if the system is in Custom Mode. The Enable Custom Mode option is disabled by default. The options are:

- PK
If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are:

- **Save to File**—Saves the key to a user-selected file
- **Replace from File**—Replaces the current key with a key from a user-selected file
- **Append from File**—Adds a key to the current database from a user-selected file
- **Delete**—Deletes the selected key
- **Reset All Keys**—Resets to default setting
- **Delete All Keys**—Deletes all the keys

**NOTE:** If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.

---

### Intel Software Guard Extensions screen options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intel SGX Enable</strong></td>
<td>This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS. The options are:</td>
</tr>
<tr>
<td></td>
<td>• Disabled</td>
</tr>
<tr>
<td></td>
<td>• Enabled</td>
</tr>
<tr>
<td></td>
<td>• <strong>Software Controlled</strong> (default)</td>
</tr>
<tr>
<td><strong>Enclave Memory Size</strong></td>
<td>This option sets <strong>SGX Enclave Reserve Memory Size</strong>. The options are:</td>
</tr>
<tr>
<td></td>
<td>• 32 MB</td>
</tr>
<tr>
<td></td>
<td>• 64 MB</td>
</tr>
<tr>
<td></td>
<td>• 128 MB</td>
</tr>
</tbody>
</table>

---

### Performance screen options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi Core Support</strong></td>
<td>Specifies whether the process will have one or all cores enabled. The performance of some applications will improve with the additional cores.</td>
</tr>
<tr>
<td></td>
<td>• All - This option is enabled by default</td>
</tr>
<tr>
<td></td>
<td>• 1</td>
</tr>
<tr>
<td></td>
<td>• 2</td>
</tr>
<tr>
<td></td>
<td>• 3</td>
</tr>
<tr>
<td><strong>Intel SpeedStep</strong></td>
<td>Allows you to enable or disable the Intel SpeedStep feature.</td>
</tr>
<tr>
<td></td>
<td>• Enable Intel SpeedStep</td>
</tr>
<tr>
<td></td>
<td>Default setting: The option is enabled.</td>
</tr>
<tr>
<td><strong>C-States Control</strong></td>
<td>Allows you to enable or disable the additional processor sleep states.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Intel TurboBoost</td>
<td>Allows you to enable or disable the Intel TurboBoost mode of the processor.</td>
</tr>
<tr>
<td></td>
<td>• Enable Intel TurboBoost</td>
</tr>
<tr>
<td></td>
<td>Default setting: The option is enabled.</td>
</tr>
</tbody>
</table>

## Power Management screen options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Recovery</td>
<td>Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected.</td>
</tr>
<tr>
<td></td>
<td>• Power Off (default)</td>
</tr>
<tr>
<td></td>
<td>• Power On</td>
</tr>
<tr>
<td></td>
<td>• Last Power State</td>
</tr>
<tr>
<td>Enable Intel Speed Shift Technology</td>
<td>This option is used to enable or disable the Intel speed shift technology support. The option is enabled by default.</td>
</tr>
<tr>
<td>Auto On Time</td>
<td>Allows you to set the time at which the computer must turn on automatically. The options are:</td>
</tr>
<tr>
<td></td>
<td>• Disabled</td>
</tr>
<tr>
<td></td>
<td>• Every Day</td>
</tr>
<tr>
<td></td>
<td>• Weekdays</td>
</tr>
<tr>
<td></td>
<td>• Select Days</td>
</tr>
<tr>
<td></td>
<td>Default setting: Disabled</td>
</tr>
<tr>
<td>Deep Sleep Control</td>
<td>Allows you to aggressive the system is at conserving power while Shut down (S5) or in Hybernate (S4) mode.</td>
</tr>
<tr>
<td></td>
<td>• Disabled (default)</td>
</tr>
<tr>
<td></td>
<td>• Enabled in S5 only</td>
</tr>
<tr>
<td></td>
<td>• Enabled in S4 and S5</td>
</tr>
<tr>
<td>Fan Control Override</td>
<td>Controls the speed of the system fan. This option is disabled by default.</td>
</tr>
<tr>
<td>USB Wake Support</td>
<td>Allows you to enable USB devices to wake the system from Standby.</td>
</tr>
<tr>
<td></td>
<td>• Enable USB Wake Support</td>
</tr>
<tr>
<td></td>
<td>Default setting: The option is enabled.</td>
</tr>
<tr>
<td>Wake on LAN/ WLAN</td>
<td>Allows you to enable or disable the feature that powers on the computer from the Off state when triggered by a LAN signal.</td>
</tr>
<tr>
<td></td>
<td>• Disabled: This option is enabled by default.</td>
</tr>
</tbody>
</table>
**Option** | **Description**
---|---
LAN Only | 
WLAN Only | 
LAN or WLAN | 
LAN with PXE Boot

**Block Sleep**
This option lets you block entering to sleep (S3 state) in operating system environment.

Block Sleep (S3 state)
Default setting: This option is disabled

---

**POST Behavior screen options**

**Option** | **Description**
---|---
Numlock LED | This option option specifies whether the NumLock LED should be on when the system boots.
  - Enable Numlock LED: The option is enabled.

Keyboard Errors | This option option specifies whether the keyboard related errors are reported when it boots.
  - Enables Keyboard Error Detection: The option is enabled by default.

Fastboot | Allows you to speed up the boot process by bypassing some of the compatibility steps. The options are:
  - Minimal
  - Thorough (default)
  - Auto

Extend BIOS POST Time | This option created an additional pre-boot delay.
  - 0 seconds (default)
  - 5 seconds
  - 10 seconds

Full Screen Logo | This option displays full screen logo if your image match screen resolution. The option Enable Full Screen Logo is not selected by default.

Warnings and Errors | Prompt on Warnings and Errors (default)
  - Continue on Warnings
  - Continue on Warnings and Errors

---

**Manageability**

**Option** | **Description**
---|---
USB Provision | When enabled Intel AMT can be provisioned using the local provisioning file via a USB storage device.
  - Enable USB Provision

MEBx Hotkey | This option specifies whether the MEBx Hotkey function should be enabled when the system boots.
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable MEBx Hotkey</td>
<td>enabled by default.</td>
</tr>
<tr>
<td><strong>Virtualization support screen options</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Option</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Virtualization</td>
<td>Allows you to enable or disable the Intel Virtualization Technology. Enable Intel Virtualization Technology (default).</td>
</tr>
<tr>
<td>VT for Direct I/O</td>
<td>Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O. Enable VT for Direct I/O - enabled by default.</td>
</tr>
<tr>
<td>Trusted Execution</td>
<td>This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel Trusted Execution Technology. The TPM Virtualization Technology, and Virtualization technology for direct I/O must be enabled to use this feature. Trusted Execution - disabled by default.</td>
</tr>
<tr>
<td><strong>Wireless screen options</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Option</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Wireless Device</td>
<td>Allows you to enable or disable the internal wireless devices.</td>
</tr>
<tr>
<td>Enable</td>
<td>- WLAN/WiGig</td>
</tr>
<tr>
<td></td>
<td>- Bluetooth</td>
</tr>
<tr>
<td></td>
<td>All the options are enabled by default.</td>
</tr>
<tr>
<td><strong>Maintenance screen options</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Option</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Service Tag</td>
<td>Displays the Service Tag of your computer.</td>
</tr>
<tr>
<td>Asset Tag</td>
<td>Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.</td>
</tr>
<tr>
<td>SERR Messages</td>
<td>This field controls the SERR message mechanism. Some graphic card required the SERR message.</td>
</tr>
<tr>
<td></td>
<td>- Enable SERR Messages (default)</td>
</tr>
<tr>
<td>BIOS Downgrade</td>
<td>This field controls flashing of the system firmware to previous revisions. Allows BIOS Downgrade (Enabled by default)</td>
</tr>
<tr>
<td>Data Wipe</td>
<td>This field enables user to erase data from all internal storage device.</td>
</tr>
<tr>
<td>BIOS Recovery</td>
<td>Allows you to recover from certain corrupted BIOS conditions from a recover file on the user primary hard drive or an external USB key. Enabled by default.</td>
</tr>
<tr>
<td>First Power On Date</td>
<td>This option lets you set Ownership date. This option is disabled by default.</td>
</tr>
</tbody>
</table>
System Log screen options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS Events</td>
<td>Allows you to view and clear the System Setup (BIOS) POST events.</td>
</tr>
</tbody>
</table>

Advanced configuration options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPM</td>
<td>Allows you to set the ASPM level.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Auto</strong> (default)</td>
</tr>
<tr>
<td></td>
<td>• Disabled</td>
</tr>
<tr>
<td></td>
<td>• L1 Only</td>
</tr>
</tbody>
</table>

System and setup password

Table 17. System and setup password

<table>
<thead>
<tr>
<th>Password type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System password</td>
<td>Password that you must enter to log on to your system.</td>
</tr>
<tr>
<td>Setup password</td>
<td>Password that you must enter to access and make changes to the BIOS settings of your computer.</td>
</tr>
</tbody>
</table>

You can create a system password and a setup password to secure your computer.

⚠️ **CAUTION:** The password features provide a basic level of security for the data on your computer.

⚠️ **CAUTION:** Anyone can access the data stored on your computer if it is not locked and left unattended.

⚠️ **NOTE:** System and setup password feature is disabled.

Assigning a system setup password

You can assign a new **System or Admin Password** only when the status is in **Not Set**.

To enter the system setup, press F2 immediately after a power-on or re-boot.

1. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter. The **Security** screen is displayed.
2. Select **System/Admin Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to assign the system password:
   • A password can have up to 32 characters.
   • The password can contain the numbers 0 through 9.
   • Only lower case letters are valid, upper case letters are not allowed.
   • Only the following special characters are allowed: space, (*), (+), (-), (.), (/), (;), ([), (]), (`).
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.
4. Press Esc and a message prompts you to save the changes.
5. Press Y to save the changes.
Deleting or changing an existing system setup password

Ensure that the Password Status is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the Password Status is Locked.

To enter the System Setup, press F2 immediately after a power-on or reboot.

1. In the System BIOS or System Setup screen, select System Security and press Enter.
   The System Security screen is displayed.

2. In the System Security screen, verify that Password Status is Unlocked.

3. Select System Password, alter or delete the existing system password and press Enter or Tab.

4. Select Setup Password, alter or delete the existing setup password and press Enter or Tab.

   **NOTE:** If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.

5. Press Esc and a message prompts you to save the changes.

6. Press Y to save the changes and exit from System Setup.

The computer reboots.
This chapter details the supported operating systems along with instructions on how to install the drivers.

Topics:

- Supported operating systems
- Downloading drivers
- Intel chipset drivers
- Display adapter drivers
- Audio drivers
- Network drivers
- Camera drivers
- Storage drivers
- Security drivers
- Bluetooth drivers
- USB drivers

## Supported operating systems

### Table 18. Supported operating systems

<table>
<thead>
<tr>
<th>Supported operating systems</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 10</td>
<td>• Windows 10 Home (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows 10 Professional (64 bit)</td>
</tr>
<tr>
<td></td>
<td>• Windows 10 Home National Academic</td>
</tr>
<tr>
<td></td>
<td>• Windows 10 Pro National Academic</td>
</tr>
<tr>
<td>Others</td>
<td>• Ubuntu 16.04 SP1 LTS (64bit)</td>
</tr>
</tbody>
</table>

## Downloading drivers

1. Turn on the desktop.
2. Go to [Dell.com/support](https://Dell.com/support).
3. Click **Product Support**, enter the Service Tag of your desktop, and then click **Submit**.

   **NOTE:** If you do not have the Service Tag, use the auto detect feature or manually browse for your desktop model.

4. Click **Drivers and Downloads**.
5. Select the operating system installed on your desktop.
6. Scroll down the page and select the driver to install.
7. Click **Download File** to download the driver for your desktop.
8. After the download is complete, navigate to the folder where you saved the driver file.
9. Double-click the driver file icon and follow the instructions on the screen.
Intel chipset drivers

Verify if the Intel chipset drivers are already installed in the system.
System devices

- ACPI Fan
- ACPI Fan
- ACPI Fan
- ACPI Fan
- ACPI Fan
- ACPI Fixed Feature Button
- ACPI Power Button
- ACPI Processor Aggregator
- ACPI Thermal Zone
- Composite Bus Enumerator
- Dell Diag Control Device
- Dell System Analyzer Control Device
- High Definition Audio Controller
- High precision event timer
- Intel(R) 300 Series Chipset Family LPC Controller (G370) - A306
- Intel(R) Gaussian Mixture Model - 1911
- Intel(R) Host Bridge/DRAM Registers - 3EC2
- Intel(R) Management Engine Interface
- Intel(R) PCI Express Root Port #6 - A33D
- Intel(R) PCI Express Root Port #8 - A33F
- Intel(R) PCIe Controller (x16) - 1901
- Intel(R) Power Engine Plug-in
- Intel(R) SMBus - A323
- Intel(R) SPI (flash) Controller - A324
- Intel(R) Thermal Subsystem - A379
- Microsoft ACPI-Compliant System
- Microsoft System Management BIOS Driver
- Microsoft UEFI-Compliant System
- Microsoft Virtual Drive Enumerator
- Microsoft Windows Management Interface for ACPI
- Microsoft Windows Management Interface for ACPI
- Microsoft Windows Management Interface for ACPI
- Microsoft Windows Management Interface for ACPI
- Microsoft Windows Management Interface for ACPI
- Microsoft Windows Management Interface for ACPI
- NDIS Virtual Network Adapter Enumerator
- Numeric data processor
- PCI Express Root Complex
- PCI standard RAM Controller
- Plug and Play Software Device Enumerator
- Programmable interrupt controller
- Remote Desktop Device Redirector Bus
- System CMOS/real time clock
- System timer
- UMBus Root Bus Enumerator
Display adapter drivers
Verify if the drivers for the display adapter is already installed in the system.

- Display adapters
  - Intel(R) UHD Graphics 630
  - NVIDIA GeForce GTX 1050

Audio drivers
Verify if the audio drivers are already installed in the system.

- Audio inputs and outputs
  - Microphone Array (Realtek(R) Audio)
  - Speakers/Headphones (Realtek(R) Audio)
- Sound, video and game controllers
  - Intel(R) Display Audio
  - Realtek(R) Audio

Network drivers
Verify if network drivers are already installed in the system.

- Network adapters
  - Bluetooth Device (Personal Area Network)
  - Bluetooth Device (RFCOMM Protocol TDI)
  - Intel(R) Ethernet Connection (7) I219-LM #2
  - Qualcomm QCA61x4A 802.11ac Wireless Adapter
  - WAN Miniport (IKEv2)
  - WAN Miniport (IP)
  - WAN Miniport (IPv6)
  - WAN Miniport (L2TP)
  - WAN Miniport (Network Monitor)
  - WAN Miniport (PPPOE)
  - WAN Miniport (PPTP)
  - WAN Miniport (SSTP)

Camera drivers
Verify if the camera driver is already installed in the system.

- Cameras
  - Integrated Webcam
  - Integrated Webcam

Storage drivers
Verify if the storage controller drivers are already installed in the system.
Verify if the storage drivers are already installed in the system.

Disk drives

ST500LX025-1U717D

Security drivers

Verify if the security drivers are already installed in the system.

Security devices

Trusted Platform Module 2.0

Bluetooth drivers

Verify if the Bluetooth drivers are already installed in the system.

Bluetooth

Microsoft Bluetooth Enumerator
Microsoft Bluetooth LE Enumerator
Microsoft Bluetooth Protocol Support Driver
Qualcomm QCA81x4A Bluetooth 4.1

USB drivers

Verify if the USB drivers are already installed in the system.

Universal Serial Bus controllers

Intel(R) USB 3.1 eXtensible Host Controller - 1.10 (Microsoft)
USB Composite Device
USB Composite Device
USB Root Hub (USB 3.0)
Getting help

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to Dell.com/support.
2. Select your support category.
3. Verify your country or region in the Choose a Country/Region drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.