



## Input Devices

### Keyboards

<b>QWERTY</b>	Most common layout; inefficient for speed.
<b>DVORAK</b>	Optimized for faster typing speeds by placing common letters on the home row.
<b>Membrane Keyboard</b>	Uses pressure pads; inexpensive but less tactile feedback.
<b>Mechanical Keyboard</b>	Uses individual mechanical switches; durable with better tactile feedback.
<b>Wireless Keyboard</b>	Connects via Bluetooth or radio frequency (RF).

### Pointing Devices

<b>Mouse</b>	Optical or laser; used for cursor control.
	<b>DPI (Dots Per Inch):</b> Sensitivity measure.
<b>Trackball</b>	Stationary device with a ball; requires less desk space.
<b>Touchpad</b>	Integrated into laptops; uses finger gestures for control.
<b>Touchscreen</b>	Allows direct interaction with the display.
<b>Stylus</b>	Pen-like device for precise input on touchscreens or graphic tablets.

### Other Input Devices

<b>Microphone</b>	Converts sound into an electrical signal.
<b>Webcam</b>	Captures video and images.
<b>Scanner</b>	Digitizes documents and images.
<b>Barcode Reader</b>	Reads barcodes for product identification.
<b>MIDI Controller</b>	Musical Instrument Digital Interface; used for music production.

## Output Devices

### Display Devices

<b>LCD (Liquid Crystal Display)</b>	Common in laptops and monitors; uses liquid crystals to display images.
<b>LED (Light Emitting Diode)</b>	Backlit LCDs; energy-efficient and brighter.
<b>OLED (Organic Light Emitting Diode)</b>	Emits light directly; better contrast and viewing angles.
<b>Projector</b>	Projects images onto a screen or surface.
<b>Resolution</b>	Number of pixels (e.g., 1920x1080 - Full HD).
<b>Refresh Rate</b>	Frequency at which the image is updated (e.g., 60Hz, 144Hz).

### Audio Output

<b>Speakers</b>	Produce sound from electrical signals.
<b>Headphones/Earphones</b>	Personal audio output devices.
<b>Sound Card</b>	Processes audio signals for output.
<b>DAC (Digital-to-Analog Converter)</b>	Converts digital audio signals to analog.

### Printers

<b>Inkjet Printer</b>	Sprays ink onto paper; suitable for photos and color documents.
<b>Laser Printer</b>	Uses toner and a laser to create images; faster and more efficient for text documents.
<b>3D Printer</b>	Creates three-dimensional objects from digital designs.
<b>Thermal Printer</b>	Uses heat to create images on special paper; common in receipts.

## Storage Devices

### Internal Storage

<b>HDD (Hard Disk Drive)</b>	Mechanical storage; higher capacity but slower.
<b>SSD (Solid State Drive)</b>	Flash memory; faster and more durable than HDDs.
<b>NVMe SSD</b>	High-performance SSD that connects directly to the PCIe bus.

### External Storage

<b>USB Flash Drive</b>	Portable flash memory storage.
<b>External HDD/SSD</b>	External versions of internal drives.
<b>SD Card</b>	Secure Digital; used in cameras and mobile devices.

### Optical Storage

<b>CD (Compact Disc)</b>	Stores up to 700MB.
<b>DVD (Digital Versatile Disc)</b>	Stores up to 4.7GB (single-layer) or 8.5GB (dual-layer).
<b>Blu-ray Disc</b>	Stores up to 25GB (single-layer) or 50GB (dual-layer).

# Communication Interfaces

## Wired Interfaces

<b>USB (Universal Serial Bus)</b>	Connects various peripherals; different versions (USB 2.0, 3.0, 3.1, 3.2, USB4) with varying speeds.
<b>HDMI (High-Definition Multimedia Interface)</b>	Connects displays and audio devices; transmits both video and audio signals.
<b>DisplayPort</b>	Alternative to HDMI; commonly used for connecting high-end graphics cards to monitors.
<b>Ethernet (RJ45)</b>	Connects to a network; provides wired internet access.
<b>Audio Jacks (3.5mm)</b>	Connects headphones and microphones.

## Wireless Interfaces

<b>Wi-Fi (Wireless Fidelity)</b>	Connects to wireless networks; different standards (802.11a/b/g/n/ac/ax) with varying speeds and ranges.
<b>Bluetooth</b>	Connects short-range wireless devices; used for headphones, keyboards, and mice.
<b>NFC (Near Field Communication)</b>	Enables short-range communication; used for mobile payments and data transfer.