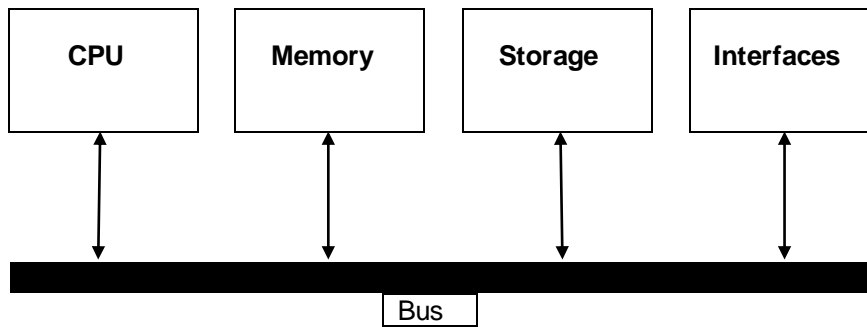


# An Idealized Computer



All computers have:

- CPU: Processor
- Memory: RAM, ROM,
- Storage: Hard-Disk, DVD and other devices
- Interfaces: Serial or Parallel peripheral connectors on back plane of computer

Many networking devices are themselves special-purpose computers, with many of the same parts as "normal" PCs. In order to use your computer as a reliable means of obtaining information your computer must be in good working order, which means you may occasionally need to troubleshoot simple problems in your computer's hardware and software. You should be able to recognize, name, and state the purpose of the following PC components:

Therefore write beside the explanation the correct word from the box and give the German name if there is one.

## Small, Discrete Components

Resistor	light emitting diode (LED)	capacitor	transistor	connector	integrated circuit (IC)
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Explanation	English	German
▪ device that amplifies a signal or opens and closes a circuit	transistor	transistor
▪ device made of semiconductor material; contains many transistors and performs a specific task	circuit	Schaltkreis
▪ device made of material which opposes the flow of electric current	resistor	Widerstand
▪ electronic component that stores energy in the form of an electrostatic field; it consists of two conducting metal plates separated by an insulating material	capacitor	Kondensator
▪ the part of a cable that plugs into a port or interface	connector	Verbinder
▪ semiconductor device which emits light when a current passes through it	light emitting diode (LED)	Leuchtdiode

## Personal Computer Subsystems

CPU	motherboard	printed circuit board (pcb)	power supply	bus	microprocessor
expansion slot	ROM	RAM	hard disk drive		

<ul style="list-style-type: none"> <li>a thin plate on which chips (integrated circuits) and other electronic components are placed</li> </ul>	motherboard	platine
<ul style="list-style-type: none"> <li><i>central processing unit</i>, the brains of the computer where most calculations take place</li> </ul>	CPU Central processing unit	Prozessor
<ul style="list-style-type: none"> <li>the device that reads and writes data on a hard disk</li> </ul>	hard disk drive	festplatte
<ul style="list-style-type: none"> <li>a silicon chip that contains a CPU</li> </ul>	microprocessor	mikroprozessor
<ul style="list-style-type: none"> <li>the main circuit board of a microcomputer</li> </ul>	motherboard	Motherboard
<ul style="list-style-type: none"> <li>a collection of wires through which data is transmitted from one part of a computer to another</li> </ul>	bus	BUS
<ul style="list-style-type: none"> <li><i>random access memory</i>, also known as Read-Write memory, can have new data written into it as well as stored data read from it. A drawback of RAM is that it requires electrical power to maintain data storage. If the computer is turned off or loses power, all data stored in RAM is lost, unless the data was saved</li> </ul>	Main Memory  RAM random access memory	Arbeitsspeicher
<ul style="list-style-type: none"> <li><i>read-only memory</i>, computer memory on which data has been prerecorded; once data has been written onto a ROM chip, it cannot be removed and can only be read</li> </ul>	ROM  read-only memory	ROM Festwertspeicher
<ul style="list-style-type: none"> <li>an opening in a computer where a circuit board can be inserted to add new capabilities to the computer</li> </ul>	expansion slot	Erweiterungssteckplatz
<ul style="list-style-type: none"> <li>the component that supplies power to a computer</li> </ul>	power supply	Stromversorgung

## Backplane Components

Sound card	serial port	backplane	video card	mouse port	network card	power cord
parallel port						

▪ the large circuit board that contains sockets for expansion cards	backplane	Rückwandplatine
▪ an expansion board inserted into a computer so that the computer can be connected to a network	network card	Netzwerkkarte
▪ a board that plugs into a PC to give it display capabilities	video card/ graphics card	Videokarte/ Grafikkarte
▪ an expansion board that enables a computer to manipulate and output sounds	soundcard	Soundkarte
▪ an interface capable of transferring more than one bit simultaneously and which is used to connect external devices such as printers	parallel port	Parallel-Anschluss- buchse
▪ an interface that can be used for serial communication, in which only 1 bit is transmitted at a time	serial port	serieller Anschluss
▪ a port designed for connecting a mouse to a PC	mouse Port	
▪ cord used to connect an electrical device to an electrical outlet in order to provide power to the device	power cord	Stromkabel

The figure shows the basic components of an idealized computer. You can think of the internal components of a PC as a network of devices, all attached to the system *bus*. In a sense, a PC is a small computer network.

Now give a short explanation in English for the following components of a computer.

▪ bit	smallest unit of data; it's either zero or one (0/1)
▪ byte	group of 8 bits
▪ access time	the time between a request and return of first information
▪ input device	""device used to give the PC instructions""
▪ output device	""device which uses the results given by the PC""
▪ modem	