An Idealized Computer

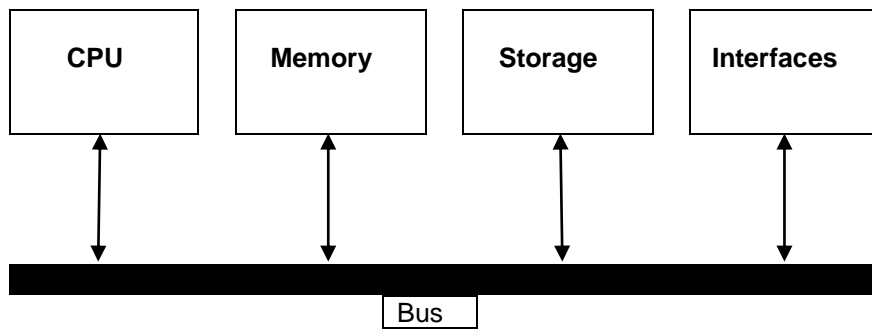| CPU	Memory	Storage	Interfaces

Bus

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)

Explanation	English	German
device that amplifies a signal or opens and closes a circuit	a transistor	Transistor
device made of semiconductor material; contains many transistors and performs a specific task	integrated circuit (IC)	integrierter Schaltkreis Chip
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	(Verbingungs-) Stecker
semiconductor device which emits light when a current passes through it	Light emitting diode (LED)	Leuchtdiode (LED)

Personal Computer Subsystems

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

▪ a thin plate on which chips (integrated circuits) and other electronic components are placed	Printed circuit board (Pcb)	gedruckte Leiterplatte
▪ *central processing unit*, the brains of the computer where most calculations take place	CPU	Zentraleinheit
▪ the device that reads and writes data on a hard disk	Hard disc drive	Festplattenlaufwerk
▪ a silicon chip that contains a CPU	microprocessor	
▪ the main circuit board of a microcomputer	Motherboard	Hauptplatine
▪ a collection of wires through which data is transmitted from one part of a computer to another	Bus	Bus, Kanal
▪ *random access memory*, 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 looses power, all data stored in RAM is lost, unless the data was saved	RAM	
▪ *read-only memory*, 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	ROM	
▪ an opening in a computer where a circuit board can be inserted to add new capabilities to the computer	Expansion slot	Erweiterungssteckplatz
▪ the component that supplies power to a computer	Power supply	Energieversorgung (=Netzteil)

Backplane Components

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

Description		
▪ 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*	*Grafikkarte*
▪ an expansion board that enables a computer to manipulate and output sounds	*Sound card*	*Soundkarte*
▪ an interface capable of transferring more than one bit simultaneously and which is used to connect external devices such as printers	*Parallel port*	
▪ an interface that can be used for serial communication, in which only 1 bit is transmitted at a time	*Serial port*	
▪ 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*	*Strom Kabel*

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.

Component	Explanation
▪ bit	*Smallest unit of data its value is eithe 0 or 1*
▪ byte	*A group of 8 bits*
▪ access time	*The speed at which a drive seeks data from a disc*
▪ input device	
▪ output device	
▪ modem	