

Parts of a personal computer



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COMPONENTS OF A PERSONAL COMPUTER

Can you imagine a world without computers? Computers have changed everyday life in infinite ways that we would have never imagined 50 years ago. Long ago, computers were primarily used to compute numbers and to do word processing. As times have changed, computers have also evolved to help us with our everyday tasks. Nowadays we even use our computers for personal enjoyment by using them for games and finding information on the Internet. One way computers play a vital role in everyday life is a computer that helps manage a nuclear power plant. One computer might take the place of numerous people by checking readings and calculating information. Having a thorough knowledge of how a computer operates and how the components interact is very important in understanding how a computer works.

When using computer terms, it is very confusing trying to refer to different parts. Computers are basically broken down into 2 groups so help organize parts. Hardware is the term used to refer to items that u can physically touch and move with your hands (Dais interview). Software is the term used when referring to items you cannot touch like programs and applications.

The motherboard is the main piece of circuitry inside your PC (personal computer). Like the downtown of a big city, its where everything happens.

The

motherboard is important because the most important things inside your PC cling to it (Dais interview). In fact, for the most part, the computer tower is simply a housing for the motherboard. Although the motherboard contains a

lot of items, it is essentially one unit and is referred to as such (Gookin 114). As an example, a mall has many stores, but everyone calls it the mall. At the heart of every computer beats the microprocessor. The microprocessor acts like a tiny, fast calculator (Ting interview). The microprocessor itself deals with other elements in the computer. These elements provide either input or output. Input is information flowing into microprocessor and output is information that it generates or splits up (Gookin 116). The overall performance of a computer or your PC depends in large measure of its microprocessor. Clock speed is measured in megahertz (MHz), or millions of pulses (cycles) per minute (Waters 61). You might think of a processor clock as a kind of metronome; with each beat of the clock - each cycle- the processor can execute an instruction from the software (Dais interview). So, a processor running at 366 MHz can execute 366 million tasks per second, more or less.

The hard drive is the main storage place for most PCs. They are internal units mounted inside the PCs console case. On some PCs, you can see the front of the hard drive on the case. On other PCs, all you can see is a tiny light that blinks every time the hard drive is accessed. The hard drive itself is a hermetically sealed unit (Gookin 137). Therefore, the mechanism that reads and writes the information can be very precise.

Inside the hard drive are the hard disks. Most hard drives have two or more disks, each of which are stacked on a spindle (Waters 79). A device called a read/write head is mounted on the actuator arm that allows it to access both sides of all the disks in the drive at once (Gookin 137). Most hard drives are connected

directly, using something called IDE or Integrated Drive Electronics (Gookin 138). This special feature allows hard drives and CD-ROMs to be directly attached to the motherboard.

All computers need memory. That is where the work gets done. The microprocessor is capable of storing information inside of itself, but only so much (Dais interview). It needs extra memory just like humans need notepads and libraries. Memory for computers is referred to as RAM (Random Access Memory). For example, when you create a document with your word processor, each character you type is placed into a specific location in memory (Gookin 145). Once there, the microprocessor does not need to access it again unless you are editing, searching or replacing, or doing something active to the text. After something is created in memory such as a document, command, or graphic, you save it to disk. Your disk drives provide long-term storage for information (Ting interview). Then, when you need to access the information again, you open it back into memory from disk so that the microprocessor can again work over the information. The only thing negative about memory is the fact that it is volatile (Dais interview). When you turn off the power of the computer, all the information that the memory is holding disappears unless you have it saved on disk. Even resetting your computer your computer zaps the contents of memory (Gookin 146).

One of the few PC components that has remained virtually unchanged over the last decade is the floppy disk drive. Floppy disks (called floppies or diskettes) are flexible circles of magnetic material similar to magnetic tape

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(Waters 82). Both sides are used to record computer data. The floppy drive grabs the disks center and spins it within the housing. The read/write head in the drive reaches the surface through a hole in the housing (Dais interview). Floppies were formally known as PCs main portable, reusable storage media. A floppy can hold 1. 44 Kb of information, which just will not cut it today (Waters 82). Today CD-ROMs have all but taken over the role of the floppy.

Most computer programs are distributed on CD-ROMs nowadays. CD-ROMs look just like audio CDs, but they hold much more information. A CD-ROM can hold 650mb of data, which is equivalent to about 250, 000 pages of text or 20, 000 images (Waters 84). The information on a CD-ROM is read optically by the drive - nothing ever touches the disk (Ting interview). Although an audio CD player can not play CD-ROMs, your computers CD-ROM drive can play audio CDs.

Computer disk technology is evolving very fast. In recent years, variations on standard CD-ROMs have emerged. One new variation is the CD-Recordable Disk(CD-R) which allows the user to save information on it only once (Waters 86). After information has been saved on the CD-R, the disk locks itself so the saved information cant be erased from it again. Another type of CD-ROM technology is the CD-Rewritable Disk (CD-RW), which allows the user to save to the disk up to a thousand times (Dais interview). Both types of drives are pricey, and not very useful for average PC users. One final type of CD-ROM technology is the DVD-ROM drive. This represents the very latest and greatest portable storage technology. DVD-
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ROM discs can store as much information as 20 CDs, or even a full-length movie (Gookin 136).

Sound cards, often called sound boards or audio adaptors, are expansion cards that record and play back sound in a PC. Sound cards plug into your PC's motherboard, and have inputs for devices like a microphone or other external devices that have the ability to input sound. (Dais interview). They also have outputs for speakers that are located on the back of the computer cabinet (Ting Interview).

An internal video device that often gets overlooked is the video adaptor. Video adaptors are usually referred to as video cards (Dais interview). The video card is an expansion card that plugs into your PC's motherboard and gives your computer the ability to display lovely text and graphics on the monitor (Gookin 160). Video cards come with many user-specific features that are used by game players, computer designers, and regular PC users also. The measure of a Video card is how much memory (Video RAM) it has (Gookin 160). Most video cards come with at least 1 to 4 mb of memory (Ting interview). The more expensive, fancier versions can have upwards of 16 mb. If your PC has a DVD-ROM drive, you will need a video card capable of displaying the DVD image clearly on the monitor (Dais interview).

A PC isn't one thing; it is a collection of hardware components linked together and directed and coordinated by software (Waters 134). Internally, a PC's components

are linked by buses. To bring information into the PC system from input devices, like keyboards and joysticks, and to send output to devices such as

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a printer or monitor, ports are needed (Gookin 214). Ports are pathways into and out of the PC. They typically take the form of sockets or plugs. A typical PC comes with one or more serial ports and at least one parallel port (Gookin 215). Serial ports are used with peripheral devices such as scanners while parallel ports are used by devices such as printers (Ting Interview).

An operating system (OS) is the one piece of software that you must have to do anything with your PC. The OS does the essential job of running programs on the computer (Dais interview). The OS makes the rules that software must follow, and it also tells your computer to function together. Microsoft Windows is by far the most widely used computer OS that is found on 90+ percent of the worlds personal computers (Waters 158). Windows is usually referred to as one of the most user-friendly OS available on the market today (Ting interview). One of the advantages of running the windows OS is that it allows your machine to act universally, or network, with other windows users so you can interchange documents, software, and various hardware very easily(Ting interview).

Personal computers have evolved to become a common household item. They can carry out various tasks such as compute numbers or help with designing a new car. Due to always-evolving technology, new hardware is being developed everyday and old hardware is quickly becoming obsolete. The average time for cutting edge hardware to become obsolete is about 6 months (Dais interview). New software is also being created to manage all these new items. People interested in computers can easily become educated about them by taking classes. Being computer literate is essential

for high-tech jobs that pay well and will often make you wanted in the high-tech industry. All of this knowledge intertwines and all comes back to having a knowledge of how a computer operates and how the components interact to have a working personal computer.

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