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Excerpt from

First Steps in Using a Personal Computer

By

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About the Author

Bev White has been involved for more than 30 years with education and computers—first as a high school mathematics teacher and then as a college professor and college administrator. In addition, she's a thoroughly experienced author and instructor on the subject of computers and computer programs.

Currently, Bev is the Executive Director of Education Technology Services for the School District of Greenville County in South Carolina. The Greenville County School District, with its 84 schools and more than 59,000 students, is the largest public school system in its state and the 66th largest in the nation. In her current position, Bev is responsible for all the District's instructional and administrative computing services as well as its computer network and Internet services.

Preview

It's hard to imagine a world without computers. They've come to be part of just about everything—from cars to space shuttles, from schoolrooms to boardrooms, from department store gift registries to the bank's cash machine. Computer chips are part of just about everything electronic.

Still, the thought of using a personal computer on your own can at first be a little daunting. Although it may look like a cross between an electric typewriter and a television, the personal computer (PC) can do much more than either of those two more familiar devices. In fact, today's PCs have more computing power than the mainframe computers of the early 1960s, which were so large they filled entire rooms. It's this huge and unexplored potential for the computer that probably accounts for the intimidation—and intrigue—felt by anyone approaching a PC for the first time. Add to this sense of mystery a new and sometimes cryptic vocabulary, and it's no wonder so many fear this strange, new machine, with its icons, kilobytes, and CD-ROMs!

The following excerpt is from a study unit in the PC Fundamentals program. The study unit is designed to help relieve any cyberphobia you may have.

Any new machine takes some getting used to. This material can help you get used to the computer by walking you through the first steps of using your PC. As you gain experience with your machine and learn how to harness its potential, your confidence will increase. Soon, you'll be as at ease with a computer as you are with a telephone or a car radio.

After reading through the following material, feel free to take the sample exam based on this excerpt.

Contents

First Steps in Using a Personal Computer

UP AND RUNNING

Parts of Your Computer System

While a computer is a complex machine, its purpose is straightforward: it's simply a tool for handling information. You'll use the personal computer, for example, to store and organize information. You'll use it also to communicate information. Different parts of the computer perform these and other functions. Figure 1 shows the basic parts of a typical computer system. The computer's *monitor* is used to display information. The *system unit* stores this information on disks. At least one disk—called a *hard disk,* or *hard drive*—is mounted inside the system unit's cabinet. Other disks—*floppies* and *compact discs (CDs)*—are separate from the computer. Such disks are designed to be inserted into the computer's disk drives whenever you want to access the information that the disks contain. The floppies or CDs can then be removed from the drive and stored away from the computer. The *keyboard* and *mouse* are the most commonly used devices for loading information into a computer.

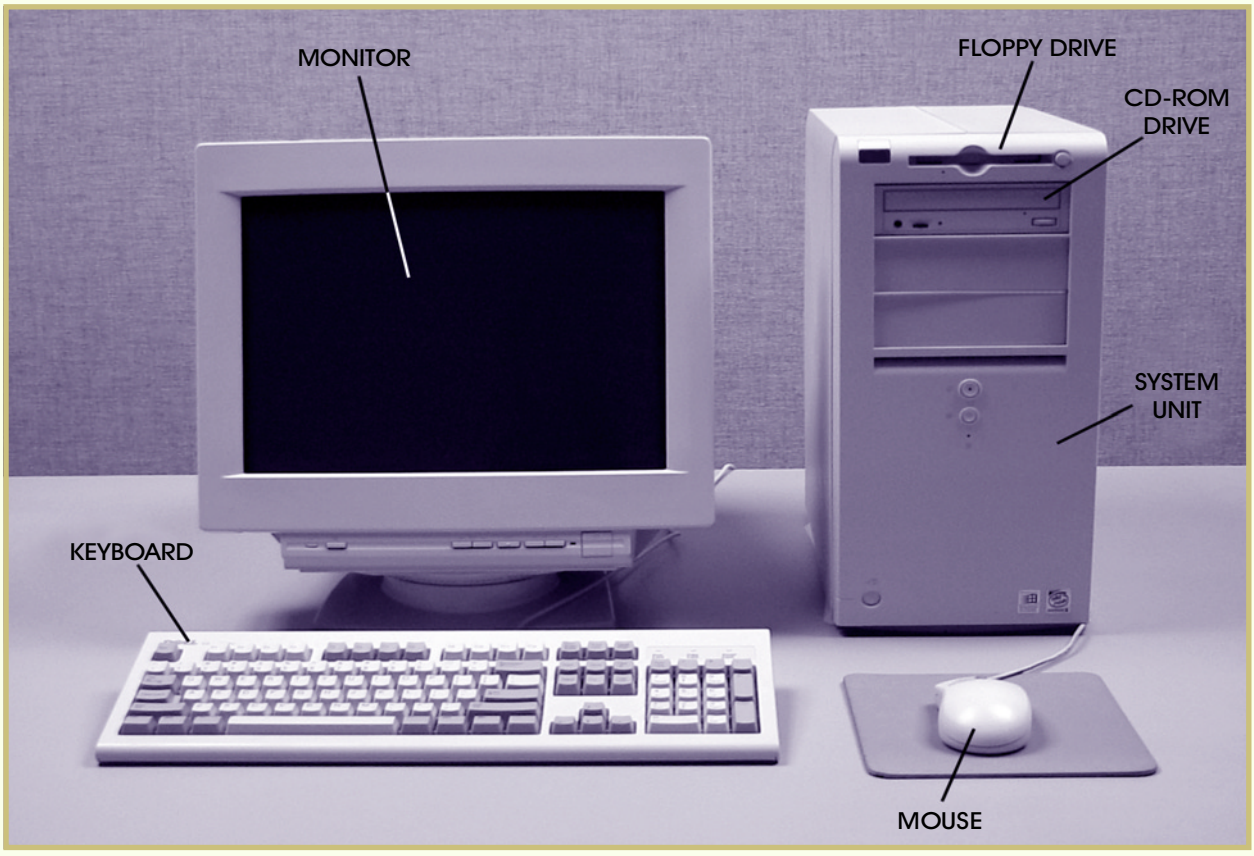

FIGURE 1—The main parts of a typical computer system are shown here.

Just as all cars have an engine and a chassis and so forth, all computer systems have certain parts in common. But, just as with different makes and models of cars, there are differences from one model of computer to another. In cars, for instance, the brake and accelerator are always in the same place, but the control for the windshield wipers may be a lever on the steering column in one car and a knob on the dashboard in another. With one type of car, the driver may be able to lock all the doors and control all the windows from the driver's seat. Another model may not have driver controls for power doors and windows. A similar situation exists in different brands and models of computers.

The basic parts of a computer system are the same in all cases, but different models can have different features. The location of the monitor's power button, for instance, may vary. Cable harnesses and the position of the disk drives may also be different from one system to the next. Still, the fundamentals are all the same: the computer has devices for inputting, storing, and displaying information. Once you know the basics, you'll find it easy to become familiar with any configuration. For the specifics unique to your PC, refer to the documentation that came with it from the manufacturer.

The Monitor

A computer's monitor is its display screen. The monitor is also sometimes referred to as a *video display tube (VDT)* or *cathode ray tube (CRT)*, terms that both indicate a vacuum tube is behind the images displayed on the screen. Whatever you call it, the monitor lets you see what's going on. When you type text, the letters are displayed on the monitor. When the computer performs calculations or runs programs, the results are displayed on the monitor.

A *program* is a series of instructions or commands that a computer follows. The instructions tell the computer what to display on the screen and what functions to perform. Programs, and the disks they're recorded on, are called *software*. The software instructs the computer *hardware*, or machinery, what to do and display.

System Unit

The *system unit* contains the computer's *central processing unit (CPU)*, which is the brain of the computer system. It's the CPU that lets you store and process programs on a computer.

Disk Drives

The floppy drive. The computer's *floppy drive* allows you to record, or *write*, information onto a floppy disk. The drive also lets you retrieve, or *read*, the information from that disk. The actual disk itself is just a

round sheet of magnetic film. However, since this round sheet is permanently encased in a hard plastic card, the entire assembly is usually referred to as the disk, or diskette. The plastic card is necessary so that you can handle the disk without touching the surface of the sensitive magnetic film.

Today, floppies are 3½ inches (in.) wide, although larger ones were once the norm. Occasionally, the larger ones can still be found in use with some machines. The 3½ in. disk may itself one day be replaced by a more compact or more efficient diskette or cartridge. Therefore, a disk drive is often engineered as a modular, or self-contained, piece, which is usually installed in a bay at the front of the system unit's cabinet. An obsolete or defective disk drive can then be easily removed and replaced with a new one, just as the CD player or radio in a car's dashboard can be easily removed and replaced.

The CD-ROM drive. Your computer system may also have a CD player. However, in addition to being able to play music CDs, the computer's *CD-ROM drive* can read digital information stored on a computer CD. Today, many software programs come on CD instead of floppy disks. The programs for newer software applications are typically very large. Such large programs, which may take as many as 20 floppy disks, can fit just fine on one CD, which reduces costs and makes installation of the program that much easier for the user.

To distinguish them from music CDs, the computer CDs are called *CD-ROMs.* The acronym, CD-ROM, stands for *Compact Disc–Read-Only Memory.* At one time, all compact discs were read-only; that is, a consumer was unable to erase or record information or programs onto a CD. Thus, even though the CD-ROM could store a lot more information than the floppy can, floppies were still necessary for the recording of any information. As a result, the floppy hasn't been entirely replaced by the CD-ROM. Floppy drives often exist side-by-side with CD-ROM drives on today's personal computers.

Times are changing, though, now that rewritable CDs and their CD drives are being marketed. The introduction of this rewritable CD could mark the end of the line for floppy disks, which are much less durable and have a much smaller storage capacity.

The hard drive. Another disk drive, a crucial part of the system unit, is found on the inside of the machine. This *hard drive,* or *hard disk drive,* contains permanent, high-capacity, rigid magnetic disks. On the hard drive are stored all the computer's resident programs. Some of the disk space is reserved as ROM (Read-Only Memory), for permanent programs and information. The rest of the disk space is for the computer user, who can add to and change its contents.

Input Devices

The keyboard. The computer's *keyboard* resembles that of a typewriter. You use the keyboard to enter and change information.

The mouse. The *mouse* controls an arrow-shaped pointer that appears on the screen. You use the mouse to select, move, and change items on the screen by sliding the mouse about on a cloth or plastic sheet called a *mouse pad.* The pointer on the screen responds to the movements of the mouse. Nearly all of today's computer systems include the mouse as standard equipment. However, some systems, especially portable laptop and notebook models, may have a *trackball* or a small touch-sensitive panel installed on the keyboard. These input devices work like the mouse, but they don't take up as much space since they don't require a mouse pad. The user simply rolls the trackball within its cradle or traces a finger across the panel to move the pointer on the screen.

Peripheral Devices

Your computer system may also have external speakers, a microphone, a printer, and other *peripheral devices.* Figure 2 shows some peripherals.

The computer's *speakers* are important for programs that include sound. With a *microphone,* you can record information. A *printer* provides printouts, or *hard copies,* of documents.

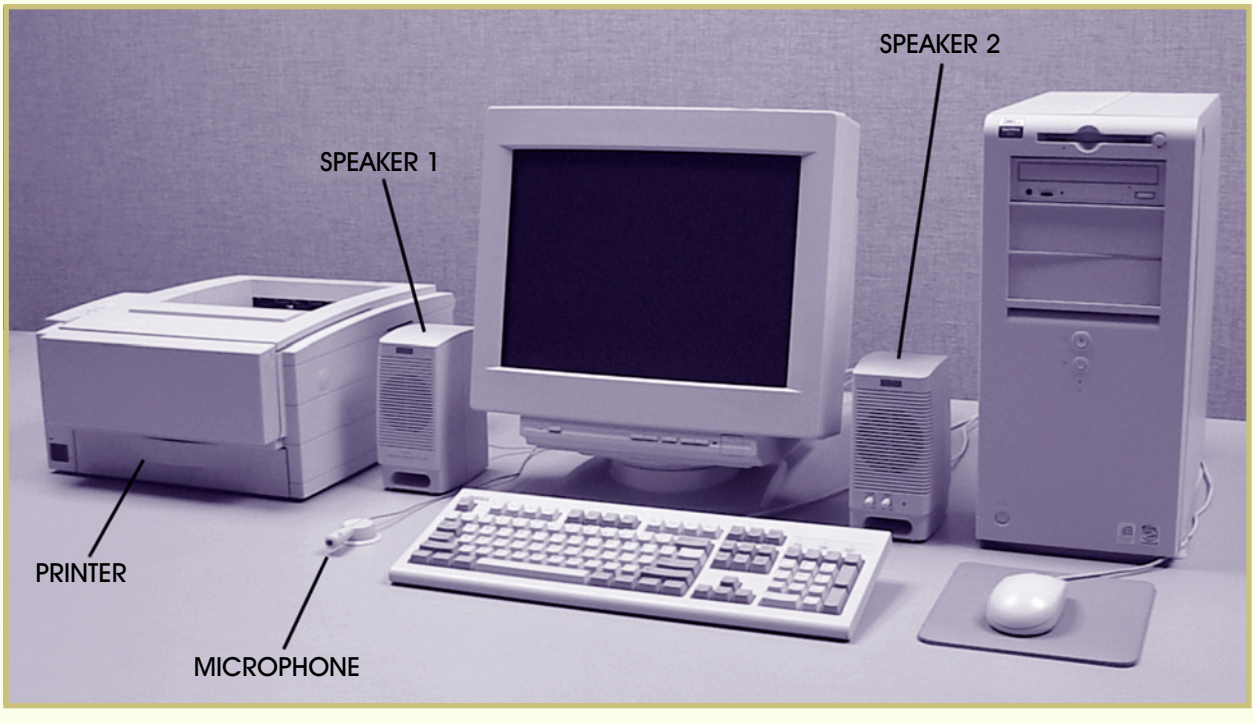

FIGURE 2—A computer system may include any of several peripheral devices.

Your system may include other peripheral devices, such as an image scanner or a digital camera. You'll discover their uses as you learn to set up and use your system.

Booting Up

Once your computer is plugged in and all the components are properly attached, turning on the system is literally as easy as flipping a switch. The process of turning the system on is called *booting the computer* or *booting up.* When you turn on a computer, it starts, or *launches,* a program that enables the rest of the system to function. In effect, the computer is "pulling itself up by its bootstraps." Once the computer is booted up (the initial program has been launched), the computer can start running other programs.

Take a close look at your computer system. The monitor, the system unit, and certain peripherals will all have their own power switches. Figure 3 shows the most likely locations for power switches on the monitor and system unit.

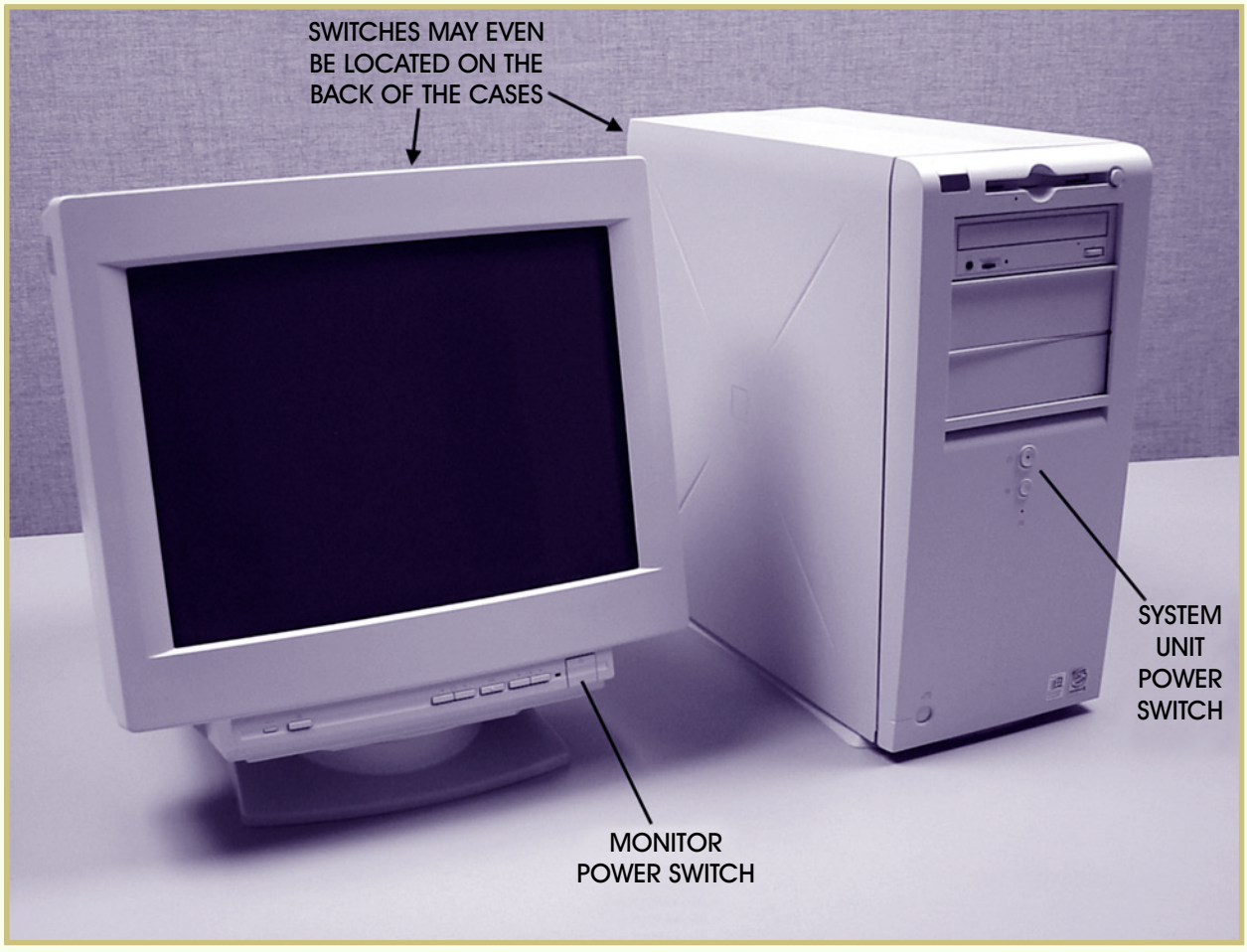

FIGURE 3—There usually are power switches both on the monitor and on the system unit.

Powering on the Monitor

Take a close look at your monitor. At the lower edge, below the screen, you'll typically find the power button. Many monitors have a small light located next to the power button. If your monitor has such a light, it should light up once you've pressed the button to power up the monitor.

If your monitor doesn't have a power button on the front, check the sides for a toggle switch. Some monitors have a toggle switch on the very back. A toggle switch is rectangular in shape. Pressing one end of the rectangular switch toggles the power on. To shut down the monitor, you would press the other end of the switch.

If you can't locate the power switch, you'll need to get out the booklet or service literature that came with the monitor. There you should find a sketch of the monitor with the various switches and controls all labeled.

Powering on the Peripherals

If your system has external speakers with On/Off switches, turn the speakers on. Similarly, if you have a printer or any other external devices with On/Off switches, turn their switches on as well. To get the full benefit from your system, you'll need to power on all of the connected devices.

Powering on the System Unit

Now, turn your attention to the system unit. Most likely, there's a small, round button on the front of the unit. It may be labeled *POWER* or it may not be labeled at all. If there are two small, round buttons on the front, one will typically be labeled *RESET.* In that case, the other button will be the power button. The reset button is used to restart the system in case it freezes up, or stalls out. There's probably a small light near the power button. It will light up to indicate that the power is on.

If there's no small, round button on the front of the system unit, check the sides and back of the unit for a switch. If you still can't find a power switch, then you'll need to check the booklet that came with your system unit. In the booklet should be a sketch of the system unit with its various parts labeled. Once you locate the power switch, turn the system unit on.