

Understanding PC Basics

What is a Personal Computer?

Types of PCs

What is Hardware?

What is a "Propeller Head"?

What is Software?

What are Applications?

What is an Operating System?

What is the Central Processing Unit (CPU)?

What is CPU Speed?

What is Random Access Memory (RAM)?

What is a Megabyte?

Ram Vs. Hard Drive Storage

What Are Disk Drives?

How Do Drives Differ?

What is a Floppy Drive?

What is the Hard Drive?

What is a CD-Rom Drive?

What is a Monitor?

What is a QWERTY Keyboard?

What is a Mouse?

What are Expansion Slots?

What is Multimedia?

What is A Printer?

What is DPI?

What is a Modem?

What is Baud Rate?

Is Modem Speed Important?

What is a DVD?

♣What Is A Personal Computer (PCs)?

A personal computer is a stand-alone computer that is equipped with a central processing unit (CPU), one or more disk drives, random access memory (RAM), a monitor, a keyboard, and a mouse.

It comes in an assortment of shapes and sizes.

A personal computer is a device that allows you to do a lot of work in a very short amount of time. It allows you to communicate with businesses, friends, family and strangers around the world. It helps you organize all of your information from your personal address book to your checkbook.

Your personal computer will become a teacher of new skills, games, and ideas. Your computer is YOUR personal assistant.

♣Types Of PCs

There are two broad categories of PCs: stay at home and portable.

Home computers come in two basic models, desktop and tower.

The desktop model sits horizontally on your desk while the tower model sits vertically.

The tower model has a smaller footprint and takes up less desk space. The orientation of the system box is the only difference in the two computers. Due to their size, they are not frequently moved.

Portable computers such as laptops and notebooks are much smaller and are easily transported. They are lightweight and can sit comfortably in your lap. They run on batteries and connect to household electricity.

♣What Is Hardware?

Hardware is a term for the physical components that are included when you purchase a PC. They include the system box, monitor, keyboard and mouse.

You can purchase additional hardware items such as modems, scanners CD-ROM drives, DVD drives, video cameras.

By itself, hardware is not capable of doing anything. Look at your stereo. It sits there looking nice, without emitting sounds until the hardware pieces are given the sounds to play.

Your computer needs something to make it work. That something is software.

♣What Is Software?

Software tells the hardware how to work, what to do, and when to do it.

Software is what gives your computer its identity. It includes the basic operating system, utility, or application programs, all expressed in a language your hardware understands.

There is software to tell your computer to do just about any task. Think about when you first balanced your checkbook. Either someone showed you how to do it or you followed the instructions on the back of your statement.

Those instructions "programmed" you on how to do the task at hand: balancing your checkbook. Those instructions were your "software" and you were the "hardware" that did the work.

♣What Is A "Propeller Head"?

A propeller head is a term used for those people who create, build or have a hand in the development of all the computer-based technologies that we use today.

♣What Are Applications?

Software applications are programs that a computer uses so that the machine accomplishes predetermined tasks.

Each application performs a specific kind of work, such as, word processing, desktop publishing and accounting, personal finance, etc.

There is an application for just about any task you can think of.

Do you want to organize your stamp collection? There's software to help you do just that.

Do you want to design your next home? Yes, software exists for that too.

♣What Is A "Utility Program"?

A utility program is an after-market application that does housekeeping operations to assist you in maintaining and improving your computer's performance.

♣What Is An Operating System?

An operating system is the master control program for the computer. It is the stored information that your computer needs to operate.

Without an operating system all of the hardware would just sit there and collect dust! The hardware is like your skeleton, muscles, and organs and Operating System is the brain!

♣What Is The Central Processing Unit (CPU)?

Sometimes we refer to the CPU as the system box or brain. It is the computer chip that does all of the processing for the computer.

Inside this tiny chip are millions of transistors (electrical switches) that are connected so they can carry out mathematical calculations. Everything a computer does is essentially a mathematical calculation.

♣What Is CPU Speed?

We measure the central processing unit's (CPU) speed in megahertz (MHz). Megahertz is a unit of measurement commonly used to compare the speed of computers.

The higher the CPU's megahertz rate, the faster it processes information and instructions.

♣What Is Random Access Memory (RAM)?

RAM is the computer's primary working memory.

RAM is used for short-term storage while the computer does its work. It is read/write memory.

RAM is distinguished from ROM, which is read-only memory. The more RAM you have the more your computer can do at one time.

RAM is volatile memory. It needs to be running to "remember" what it is doing. In case of a system failure or power interruption, you will lose all of your work in RAM that you have not saved on a disk drive. Save your work frequently.

Most computers these days have between 32 and 64 megabytes of RAM.

♣What Is A Megabyte?

A megabyte is a large unit of measurement of storage capacity. Here is how storage capacity is calculated:

- Bit = smallest amount of info.
- Byte = eight bits strung together.
- Kilobyte (KB or K) = about 1000 bytes.
- Megabyte (MB or Meg) = about a million bytes.
- Gigabyte (GB or gig) = about a billion bytes.

♣Ram Vs. Hard Drive Storage

Storage is where the program is kept, RAM is where it works.

The amount of space a program needs for storage on the hard drive has nothing to do with how much RAM is needed to run the program.

Many PC programs take up several megabytes of storage space. Many programs also require at least 16MB to 32MB (or more) of RAM.

To run today's popular programs, make sure your computer has adequate RAM and storage.

♣What Are Disk Drives?

Disk drives allow you to store and move data from, and to, different types of media.

There are several types of drives: floppy drive, hard drive, CD-ROM drive, and DVD drive.

♣How Do Drives Differ?

The biggest difference in drives is size or capacity. Drives also differ in how fast they take to find and access information.

♣What Is A Floppy Drive?

A floppy disk drive is an economical, removable storage medium. It uses a magnetic disk. You can record or erase it and then remove it from the computer. You can use the removable disk repeatedly.

Today's floppy is 3.5 inches of square, stiff plastic with a magnetic disk inside. It is called a floppy because the original disk, way back when, was large and floppy like a hound dog's ear. The term "floppy" is still with us.

To read or write to a floppy disk, insert the disk into the floppy disk drive slot on the front of your system box.

♣What Is The Hard Drive?

The hard disk, or hard drive, is your PC's main storage device. It's sometimes called the C: / drive and pronounced "cee" drive. Data is magnetically stored there. It stores programs and data files.

A typical hard disk holds from 1 to 10 gigabytes of storage. Much larger hard drive capacity is available.

continued...

♣What Is A CD-Rom Drive?

CD-ROMs are compact discs, read-only, removable storage media. CD-ROMs read the data encoded on the disc and then transfer this data to the computer.
CD-ROMs are different from hard drives and floppy disks, in that you cannot store your own information on them.
One CD-ROM can hold as much information as about 450 floppy diskettes.

♣What Is A Monitor?

Sometimes we call the monitor a CRT (cathode ray tube) and sometimes we refer to it as a video display unit.
The monitor attaches to the video output of the computer and produces a visual display. Most computers these days come with a 15-inch monitor. For an additional cost you can upgrade to a larger monitor. Large monitors are a dream to work with and make it much easier to view your work. However, they take up more space on your desk.

♣What Is A QWERTY Keyboard?

It is the standard typewriter keyboard layout, used for computer keyboards.
It is the most frequently used input device for all computers.
The keyboard provides a set of alphabetic, numeric, punctuation, symbol, and control keys.

♣What Is A Mouse?

The mouse is a control device. It controls the pointer on your computer screen. It is housed in a palm-sized case. When you move it on your desk, the corresponding arrow, commonly known as the pointer, moves on the computer screen.
Think of it as a remote control for your computer. Move the mouse left and right, the pointer moves left and right. Move the mouse forward and backward, the pointer moves up and down the screen. Using the mouse to command the computer to do most tasks can eliminate many keyboard strokes.
The flashing bar, known as the cursor, is where the work will take place on the computer screen. To move the cursor with the mouse, place the pointer where you want the cursor to appear and click the mouse.

♣What Are Expansion Slots?

A system has expansion slots so you can add additional hardware, known as peripherals or add-ons. Expansion cards give the computer additional capabilities.
Some slots may already be taken for a sound card or video card.

♣What Is Multimedia?

Multimedia is a term used to describe any program that incorporates some combination of sound, music, written text, pictures, animation, and video. Almost all of the computers on the market today are multimedia capable.

continued...

♣What Is A Printer?

A printer is a device designed to print computer-generated documents onto paper. Printers vary in their quality, speed, graphics capabilities, fonts, and even paper usage. There are dozens of brands of printers. The three most popular types of printers are dot matrix, ink jet (bubble jet), and laser printers.

- **Dot Matrix:** A dot matrix printer uses a print head and a ribbon to print a document. These printers are inexpensive and tend to be slow and loud. Their print quality is fair.
- **Ink Jet (Bubble Jet):** An inkjet printer works by spraying tiny dots of ink onto the paper. The print head controls the spray pattern to form the print. Excellent print quality at a reasonable price.
- **Laser:** A laser printer offers great quality and fast printing. It is also more expensive than the other two types of printers.

♣What Is DPI?

DPI (dots per inch) is a measure of how good a printer is. The more DPI, the better the print, and the easier it is to read.

♣What Is A Modem?

A modem is the communications hardware that allows your computer to send and receive information from other computers, over a telephone line.

Most new computers come with internal modems. If you have an older computer you might have an external modem—a small box with a phone jack connected to your computer. You will need a modem (and a telephone line) to hook up to online services and the Internet.

♣What Is Baud Rate?

Baud rate is the number of times a modem's signal changes per second when transmitting data. It is how modem speed is measured. The bigger the number, the faster you can communicate.

♣Is Modem Speed Important?

Yes. Common speeds for modems are between 28,800 and 56,600 kilobytes per second (expressed as 28.8K and 56.6K). The existing telephone lines can only handle up to about 56K.

Cable TV companies are now providing access to the Internet through cable lines. All of this is an effort to give you faster access to information.

♣What Is A DVD?

- DVD stands for digital versatile disk.
- DVD drives read DVDs.
- A DVD holds about 5 gigabytes of information while a CD-ROM only holds about 600 megabytes.
- A CD-ROM drive cannot read a DVD. However, DVD drives can read CD-ROMs.

♣ Learning Start-up and Shut-down

What is Booting Up?

What Should You See On The Screen After The Start-Up?

What is A Window?

Recognizing the Parts of A Window

What Are the Mouse Functions?

What is the Start Button?

How Do I Shut Down The PC?

How Do I Re-Start The PC?

♣ What Is Booting Up?

Booting up is a term for starting your personal computer. It initiates an automatic routine that clears the memory; loads the operating system, and prepares the computer for use.

♣ What Should You See On The Screen After The Start-Up?

After the start-up, what you should see on the monitor is the Windows Desktop. It is the home base like the physical desk where the computer sits. Several tools to get you started are placed on the background area. These include a taskbar, icons, and a Start button. There will be variations from computer to computer on what the Desktop looks like. You will be able to customize the look of the Desktop to suit your artistic feelings!

♣ What Is A Window?

A window is a framed region on your screen. It is a rectangular pane with information in it. Once you have selected an option from a menu, another window appears. We call that, opening a window. Most windows contain icons on which you can click to activate a program.

♣ Recognizing The Parts Of A Window

The window is the rectangular area on the screen. Just like a real window, it can be opened and closed.

Each window has a title bar at the top. It has the program name and the name of the document displayed in it.

The menu bar is located directly under the title bar. It displays a list of command categories. In each category of commands, there are a number of choices.

The toolbar is located under the menu bar. It displays a row of buttons for giving commands.

continued...

♣What Are The Mouse Functions?

- **Pointing:** To point to something on the screen, move the mouse over the mouse pad until the pointer is in the pointed where you want it. The pointer will move in the same direction that you move the mouse.
- **Clicking:** Single-clicking is probably the most used mouse function. To click something, point at it and quickly press and release the left mouse button. Generally when you see "click" it refers to a left-click. A right-click is sometimes used to find a shortcut menu.
- **Double-clicking:** Point and quickly click the mouse button in rapid succession twice. Double-clicking is also used to initiate action.
- **Dragging:** To drag, place the mouse pointer where you want to start the drag, press and hold down the mouse button, and then drag the mouse to the ending spot. When you have completed the drag, release the mouse button. Dragging allows you to select text, to move items, and to perform other tasks.

♣What Is The Start Button?

The Start button is the button that takes to different menus and programmes in Windows. It is located on the taskbar. Clicking on the Start button brings up a single menu from which many menus and programs can be accessed.

- To display the Start menu, click the Start button. You see the following sub-menus (Windows 95 does not have Favorites or Log Off):
- Sub-menu - What it does
- Programs - View a list of your programs.
- Favorites - Open your favorite files and Web pages.
- Documents - Open a recently opened document.
- Settings - Modify desktop or system settings.
- Find - Search for files or folders.
- Help - Get answers to your questions.
- Run - Open items such as Web pages, programs, and other computer sources.
- Log Off - Log off a Windows session.
- Shut Down - Shut down or restart your computer.
- The top of the Start Menu is where you will put shortcuts to your most frequently used programs. To put a program on your Start button, simply drag any icon from your Desktop onto the Start button.

♣How Do I Shut Down The PC?

It is important to use the correct shutdown procedure. You should never just shut off your computer.

Before you shut down, always save the files you are working on. Always close Windows before shutting down your computer. This will help to protect your files from data corruption.

continued...

♣Steps to Shut Down:

- Click the Start button and select Shut Down.
- Select the Shut Down option.
- Click the OK or yes button.
- You will see a screen that tells you it is safe to turn off your PC.
- Turn off the power to your computer. Do not forget to turn off the monitor, too.

♣How Do I Re-Start The PC?

Your PC may experience a puzzling failure from time to time. Sometimes it may just freeze up, for no reason at all. Do Not Worry. You Did Not Do It! It is just the nature of computers to get confused on occasion. When this happens your mouse will not respond to clicks and the keyboard stops working. The machine do not responds. You will have to restart your computer.

First, try the menu method.

- Click the Start button and select the Shut Down button.
- Select the Restart the Computer button.
- Click the Yes button.

If that did not work, try the alternate method.

- Press these three keys at the same time: Ctrl Alt Delete
- Select shutdown.

Third, last method.

- Use the reset button if your machine has one
- Or
- Turn off the power switch.

♣ Understanding Windows Basics

What is the Windows Operating System?

What is the Desktop?

What is the Taskbar?

What is an Icon?

What is a Pointer?

What is the Difference Between the (A :), (C :), and (D :) Drives?

What is a File?

What is an Extension?

What is a Folder?

♣ What Is The Windows Operating System?

Windows is the operating system that lets you give orders to your computer. The system acts on your commands. Newer versions of operating systems offer more advantages, so make sure you have the latest version.

♣ What Is The Desktop?

The Desktop is the working area (background) of the Windows display on your computer.

Look at your desk at home or work. It is the area where you do your paperwork. You pull a file, letter, or your checkbook from a drawer, do some work, and put it back when you are finished. The Desktop of the computer is where you will pull out your electronic files, write electronic letters or work in your computer-based checkbook.

When you start your computer, you will see several screens go by before you arrive at the main Windows screen, which is the Desktop.

♣ What Is The Taskbar?

The taskbar is the horizontal bar along the bottom of the Desktop. It has the Start button on the left. Task buttons appear on the taskbar to identify any open applications or programs currently being used. Displayed in small rectangles near the middle of the taskbar are the programs that are running. Near the right side, you will see the programs or tasks that start automatically when you start Windows. On the far right, you will see the time displayed.

The taskbar allows you to start your navigation process through all of the computer files. If a program is minimized (meaning it does not appear on the screen, but is still being used), clicking on it from the taskbar brings it back onscreen. You can easily switch to a different window by clicking its button on the taskbar.

♣ What Is An Icon?

An icon is a little picture that represents a program, command, or a file. For instance, the My Computer icon looks like a small computer.

Icons that have a small white arrow in the lower left corner are Shortcuts. The arrow indicates that the icon is a shortcut that points to a program, folder, or other item. A shortcut is a quick way to open a program or file.

♣What Is A Pointer?

A pointer is the arrow you use to choose things on screen. Since the Shortcut is simply a pointer to a specific program or file, you can delete the shortcut or remove it from the Desktop without actually deleting the program or file.

♣What Is The Difference Between The (A :), (C :), and (D :) Drives?

- The (A :) drive is the floppy drive. Older computers used to have two floppy drives, and the second one was the (B :) drive.
- The (C :) drive is the hard disk drive. This drive is non-removable.
- The (D :) drive is usually the CD-ROM drive. Sometimes it is the (E :) drive.

♣What Is A File?

A file is a collection of information, with a unique name, stored in your computer or on a removable disk.

Your checking account could be in one file. A single letter could be in another file or a collection of letters could be in one file.

♣What Is An Extension?

The last three letters (suffix) of a file name designate an extension. An extension identifies the format of the file. It is preceded by a period.

Every file is in a specific format. There are many different formats. By naming a file with an extension, you tell the computer which format the file is in. That way the computer knows what format to use each time you want to work with that file.

♣What Is A Folder?

Folders are special files that can hold multiple documents. They allow you to organize information. Folders can hold both files and other folders (subfolders).

For example, you could put all of your letters to Aunt Mary in a folder with her name on it; or you could put the Aunt Mary folder into the General Correspondence folder, that holds many other files and folders.

♣ Learning Basic Skills

What are the Basic Skills?

Opening a Window

Resizing a Window

Moving a Window

Too Many Open Windows?

What Is a Scrollbar?

What Is a Menu?

What Is a Menu Bar?

Using Menus and Sub-Menus

What Is a Shortcut Menu?

What Are The Key Functions?

How Do I Close a Program?

♣ What are Basic Skills?

Basic skills are used repeatedly in every program. They include selecting text, cutting and pasting text, copying and deleting text. You will also need to know how to open a document, save a document, and print your work.

Some of the common skills that you'll use daily are:

- **Selecting text:** Click at the beginning of the text you want to select. Hold down the mouse button and drag across the text. Release the mouse button and the text will appear highlighted.
- **Cutting, copying and pasting:** These commands are found under the Edit menu. The Cut command allows you to remove text from your document and use it elsewhere. The Copy command lets you duplicate a section of your document, for use elsewhere, without removing it from the original spot. After you have Cut or Copied your selection, move the cursor to the place in the document where you want the section to appear. Then select the Paste option.
- **Deleting text:** Select the text you want to delete. Press the Delete key. This is different from Cut, as this text is not stored in the computer's memory for your use.
- **Saving a document:** One of the most important precautions you can take while working is to save your work frequently. On the File menu of the program you are working in, click Save As. The Save As window appears. In the File Name text box there is a blinking cursor or highlighted text. Type in the name you want the file to be called. Click on Save. As you continue working on the document, you need only to choose the Save command from the File menu.
- **Printing your work:** From the File menu, choose Print. After making sure all of the options are set as you like them, click on OK.

continued...

♣Opening A Window

There are two types of windows, and both types have the same set of controls.

- To open a window displaying the contents of a disk or folder, double-click on the icon. The window is displayed on the Desktop.
- To open a window displaying a program, start the program. The program is started and displayed in a program window. If you are working in a program, you can have two windows open: the program window and the document window. Each window has its own set of controls. Confusing? Don't worry. With a little practice, you will be a pro at this.

♣Resizing A Window

You may want to change the size of the window to make it easier to read. There are several ways to resize a window.

- Put the pointer on any of the window's borders, but not on the title bar. The mouse pointer turns into a two-headed arrow. Drag the border to change the size of the window.
- Use the Minimize and Maximize buttons that are located in the upper right corner of every window. If you click on the Minimize button, the window "closes". You will notice how the program button is still on the taskbar. This is different from actually exiting the program that you can do by clicking on the "x" button.
- Instead of quitting the program entirely, minimizing closes only the window of the program. The title of the program you minimized now appears as a button on the taskbar. To maximize or open the window again, click on the button.

♣Moving A Window

You may want to rearrange where a window is located. Follow these steps to move a window:

- Point to the window's title bar.
- Drag the title bar to the location you want and release the mouse button.

♣Too Many Open Windows?

There are some commands you can use to "clean up" the window clutter on your Desktop.

- Right-click on the mouse anywhere on the taskbar. A menu appears.
- Select Cascade. The Cascade command displays the windows so that the title bars of each window appear.
- Click on the title bar to bring its window to the front of each stack.
- Tile horizontally stacks each window in horizontal panes and Tile Vertically stacks each window in vertical panes.

continued...

♣What Is A Scrollbar?

A scrollbar is a gray rectangle with small black arrows on both ends. It lets you select the portion of the window you want to see. It is on the right side of a window for vertical scrolling and on the bottom for horizontal scrolling. When a document is so big it cannot completely be displayed on the monitor, a scroll bar appears so you can see all of its contents by moving the document up and down the screen, or right and left.

The Page Up key scrolls the document up and the Page Down key scrolls it down one full page rather than one line at a time. By clicking the up/down scroll arrow one time, you will move the document one line at a time. By clicking on a blank spot above or below the scroll indicator, you will move the document up/down one page. You can continuously scroll by depressing the mouse button steadily instead of by just clicking it.

♣What Is A Menu?

A menu is a list of commands displayed on your screen, which allows you to perform tasks. When you click on any of the words in the menu, a list of choices drops down. Just as you would select your choices from a restaurant menu, you select the choices of what to do on your computer

♣What Is A Menu Bar

A menu bar is an onscreen display that lists available categories of commands. It is usually located at the top of the program window. To choose a category or command, just click on it.

♣Using Menus And Sub-Menus

It is as simple as this:

- On the menu bar, choose the category of the command that you want. The menu opens.
- Click on the command you want. Voila!

If a sub-menu opens, it is just giving you more options of how to accomplish your task at hand.

♣What Is A Shortcut Menu?

A shortcut menu is a hidden menu that can be opened at any time. Almost every object on your Desktop has one. If you right-click on the item, the shortcut menu will appear.

continued...

♣What Are The Key Functions?

- F1-F12. These are programmable keys called function keys. They provide special functions depending on the software you are using.
- Esc. The escape key cancels a command or an operation.
- Numeric Keypad. A calculator-style set of keys for entering numbers.
- NumLock. The Number Lock key switches the right-hand keypad between typing numbers and being used as cursor keys.
- Arrow Keys. The keys that move the cursor onscreen. The arrow keys move the cursor in the direction indicated by the arrow on each key-one character left or right or one line up or down.
- Page Up (PgUp) and Page Down (PgDn). These keys move the cursor to the preceding screen (PgUp) or the next screen (PgDn).
- Ctrl. The control key pressed in combination with other keys, acts as a shortcut to execute commands and to select commands from the drop down menus.
- Delete (Del). This key deletes the current character.

♣How Do I Close A Program?

Always remember to close a program when you are finished working in it. Otherwise, it will be taking up memory that other programs may need.

- To close a program:
- Save your work.
- Click the Close (x) button in the title bar of the window of the program.
- If you have not saved your work, the program asks you if you want to. Click Yes to save it, click No to lose it.
- The program window disappears. Alternate method if the close button does not work:
- Go to File.
- Save your work.
- Click Close from the drop down menu.