



PC Basics I

*Hardware/Software
Resources
Desktop
Windows Explorer*

Common Hardware

Outside

The Hard Drive Unit (Tower) is the main part of your computer. Everything* is either contained inside the tower or plugs into it. The front of the tower usually has a Power button, a Reset button, a slide-out CD/DVD drive, a floppy disk drive and possibly front USB ports.

The back of the tower looks confusing. This is where things plug in. On the back are plug-ins for the power, monitor, mouse, keyboard, phone line, ethernet, USB, printer, speakers and more. You also can see the cooling fan and open "slots" for adding more to your computer.

The Monitor is the "tv" screen you view. The Mouse is used for controlling the pointer or cursor on the screen. A standard mouse has two buttons and rolls on a flat surface on a rubber ball. There are also trac-ball, optical and wireless mice. The keyboard has all the keys. Other common peripherals (devices you attach separately) include printers, external drives, digital cameras, MP3 players, joysticks, webcams, scanners, routers and USB hubs. I even have a travel mug that plugs into my computer to keep my coffee warm!



Inside (* the “everything” referred to on page 1)

The motherboard (pictured to the right) is the main circuit board inside your computer. All the parts inside and outside are connected to the motherboard. The main component on the motherboard is the processor. This chip is what “performs” all operations large and small. Processor speed is measured in Megahertz (Mhz) and Gigahertz (Ghz). The hard drive is a highly technical “disk” that stores all data you put on your computer. The RAM (random access memory) is temporary storage that acts like a counter top. It is the work space your computer uses for all the programs and processes you have open at one time.

There are also “cards” and “ports” on the motherboard for helping or connecting other pieces of hardware such as video and audio cards, ethernet connectors, modems, printers and USB devices. Lastly is the power supply and cooling mechanisms. Without these, the motherboard would not have power and it would overheat quickly.



Common Software



Software means the programs on a computer. First, there is the **Operating System**. (Windows XP, Windows Vista, Macintosh, etc). This is the main program that controls and conducts everything from the start-up sequence to the look of your desktop. Hundreds of files make up the operating system and each one is very important.

Next, there is **Support** software, which is the drivers and instructions for all the hardware and devices on your computer from the video card to the speakers. When you buy a printer, it comes with support software that you have to load to your computer so your computer can “talk to” your printer.

Another type of software is **Applications** which are all the individual programs for doing things. Applications include everything from your Microsoft Office programs to your standard games like Solitaire and Free Cell. There are hundreds of applications out there. Many may be included with your computer; many more can be purchased or downloaded.



The files not typically considered “software” is your data. Pictures, music files, Word documents and emails are all data files. They are used by software programs and may be the result of software programs but by themselves are not really software programs.



Resources

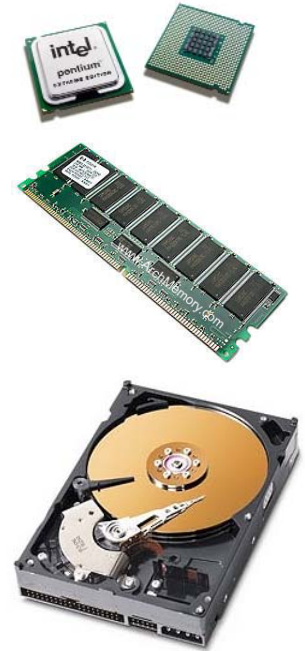
The **processor** is the heart of the motherboard. Every operation performed (hardware/software) is handled by the processor. The faster the processor, the faster it can do things, so the more things you can get done in a given time. The processor is the one resource you cannot upgrade on your own. It is hard-wired into the motherboard, which is the backbone of the computer. To upgrade your processor basically means to get a new computer.

The **hard drive** is your computer's storage. The larger the hard drive, the more stuff you can put on your computer. A few years ago, a 10 GB hard drive was large. Nowadays, hard drives might start at 500 GB and go up to 1 or more *Terabytes* (1 TB = 1,000 GB, 1 GB = 1,000 MB, 1 MB = 1,000 KB and one small picture is about 50 KB)

Your **RAM memory** dictates how much your computer can do at one time. The more RAM memory you have, the more programs and processes you can support at once. Windows XP requires about 128 MB of RAM; Vista requires almost 1 GB of RAM. There are different kinds of RAM chips, so if you are adding more, you will need to know which you have and what configurations your computer can handle. Today's computers come with about 3 GB of RAM. Computers a few years ago came with about 256 MB of RAM!

There are other resources such as your video and audio cards, your system buses the type of RAM and hard drive you have, but that is typically for more advanced users running advanced applications.

To put all of these resources together, think of digging a hole. The hard drive would represent how many holes you can dig over time. The processor is how fast you can dig (move the shovel) and the RAM memory is the size of shovel you are using.



Desktop

The desktop is the term for your main screen when your computer is on. The desktop typically contains a collection of icons to get into programs or settings, a taskbar with your Start button, some mini-icons next to the Start button, buttons for running programs, start-menu items and a clock. You might also have a nice picture or a weather bug.

You can customize just about every aspect of your desktop from adding, removing or rearranging your icons, changing the wallpaper and colors, to adding mini-icons to the taskbar and hiding the taskbar altogether. We'll go through a few of these common changes:

- Changing desktop wallpaper
- Adding and removing icons
- Hiding/showing taskbar
- What "Active Desktop" is
- Changing Windows color scheme
- Organizing desktop icons
- Setup up and customizing a screen saver
- Other requests??



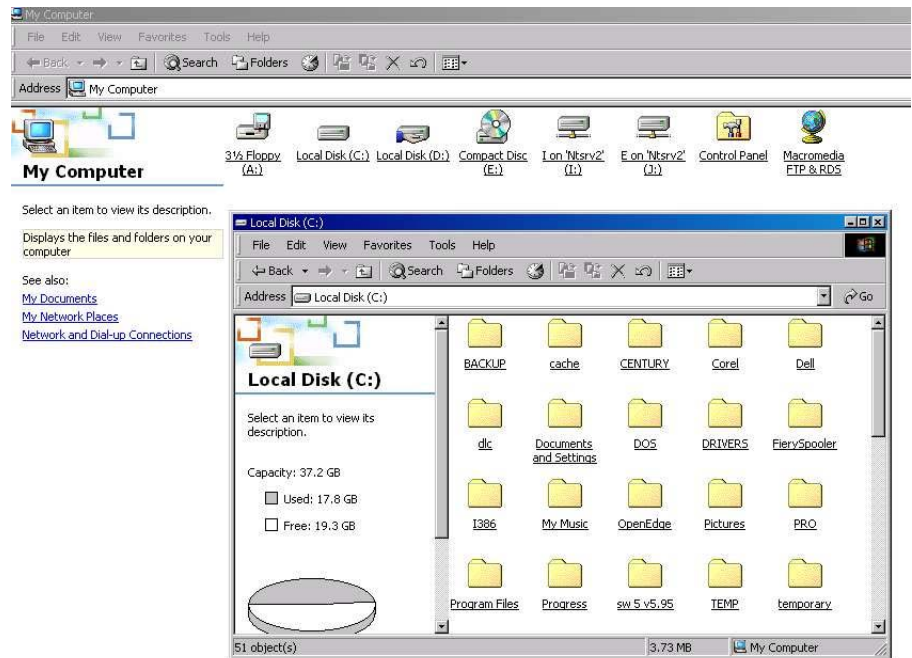
Windows Explorer

Windows Explorer is your file manager. It is the forum for storing, finding and managing all your programs, files and data. It looks like a collection of “cascading” screens, yellow folders and individual files. Knowing where everything is on your computer is critical to using many programs where you’ll be creating, opening or saving things. In fact, a mini-Windows Explorer is what opens whenever you are in those situations.

Getting to Windows Explorer usually starts with **My Computer**. Often, this is an icon on your desktop OR an item in your Start menu. Double-click My Computer or click Start and My Computer.

The first screen is a list of available **drives** (C, D, CD/DVD and any network or USB drives) plus an icon for Control Panel and your Network Connections.

Click once on a drive for some basic info like space used/available. Double-click a drive to open it and view the folders/files inside.



Notice the toolbar at the top. This will help you get around. The two most helpful buttons are “up” folder and “back”. The “up” folder takes you up one directory level. The back button will take you back to the previous screen.

Here are some other commands/tips:

- Double-click a folder: to open the folder and see what’s inside (files or more folders)

- Right-click in a folder to change how the files are presented (large, small, with details, as thumbnails)

- Right-click on a file to open, delete, rename, save or move it

- Copy a file to clipboard by highlighting it and pressing CTRL C on keyboard

- Paste clipboard contents into a folder by going to the folder and pressing CTRL V

- Click once on a file (highlight) to generate basic details like file size and date created

- From My Computer, click once on a drive to view used/available space

- For easy transferring, open two copies of Windows Explorer -- one to each folder you want to work in