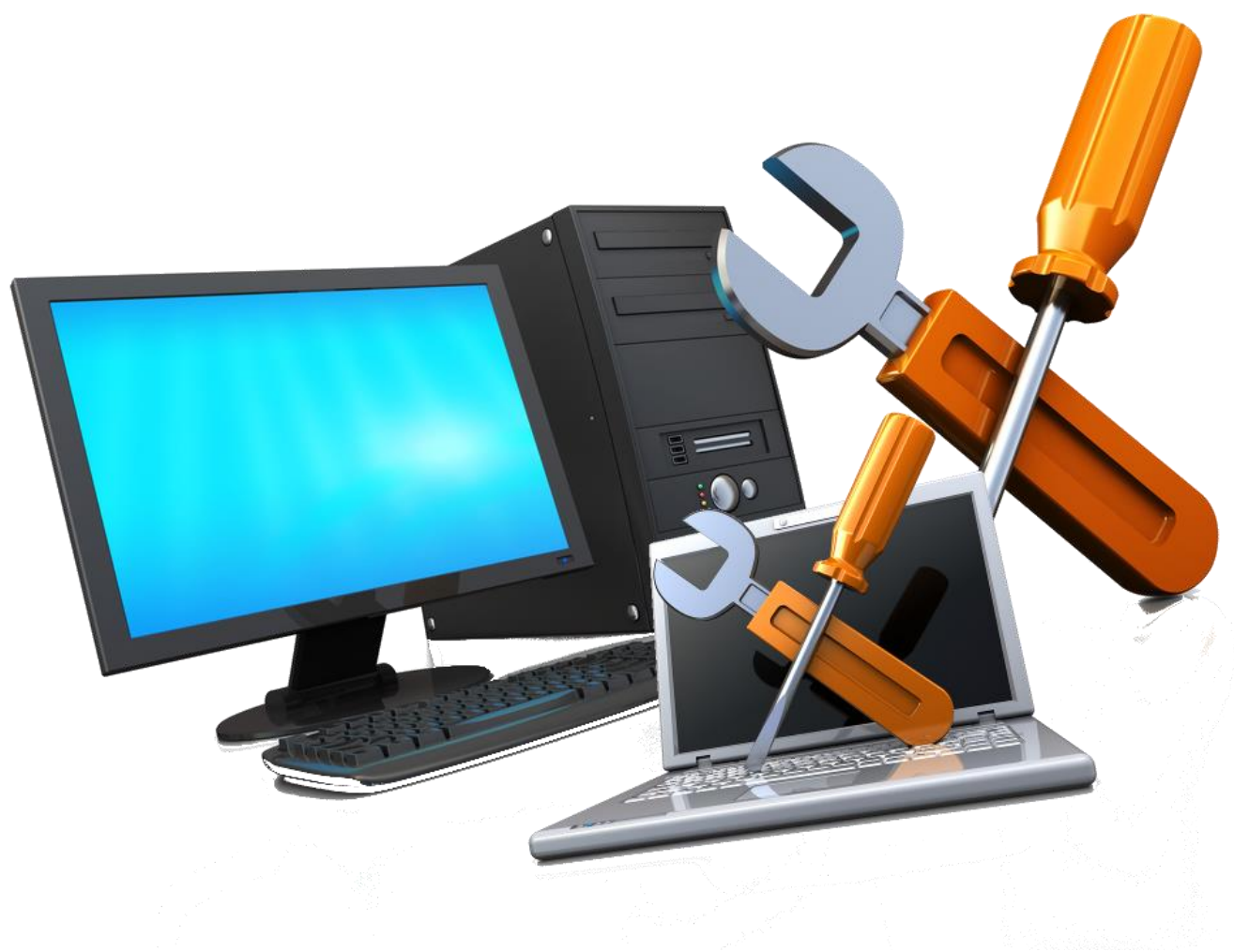




Cruizer Blade Computer Training

Repair & Maintenance

Student Guide Book



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Table of Contents

Legal Disclaimers	2
Components That Make Up Your Computer.....	6
How To Add Random Access Memory To Speed Up Your Desktop.....	8
Install More RAM In Your Laptop For More Speed.....	11
How to Easily and Safely Install RAM	13
How To Troubleshoot RAM Memory	15
Memory Testing Software Utilities.....	17
Get More Computer Storage By Installing A Larger Hard Drive	19
Here's How To Replace A DVD Drive In Your Laptop	21
Installing A Sound Card The Easy Way.....	27
Open The System Unit	28
Installing The Sound Card	28
Replace The System Unit Cover	30
Can You Install A New Sound Card In Laptops?.....	32
Installing a USB Sound Card in Your Laptop	33
Quick and Easy Sound Card Problem Solving	34
General Computer Troubleshooting	36
How To Revive A Dead Computer	42
How To Speed Up Any Desktop Or Laptop Computer	45
Make Sure You Have Enough Memory	45
Be Sure To Clean Up Your Desktop	46

Make Sure You Have a Fast Enough CPU Chip	46
Uninstall Those Unneeded Applications To Free Up Memory	46
Get And Keep Your BIOS Fine Tuned	47
Patch Your Computer To Keep It Updated	47
Keep Your Antivirus Up to Date and Scan Your Disks	48
Make Sure Your Antivirus/Internet Security Programs Run at Night	48
Make Sure You Have no Spyware	49
Stop Unneeded Startup Programs	49
Defragment Your Hard Drive Regularly	51
Remove Those Unneeded Files.....	51
Move the Page File to Another Partition.....	52
Stop File Indexing	52
Turn Off Animations	53
Clean the Registry	54
Stop Unneeded Services	54
Turn Off Fancy Desktop Backgrounds, and Screensavers	54
ReadyBoost for Vista Speeds Boot Times and Other Operations	55
Change Your PC Use Habits	56
Have Your PC health Assessed for Free at PC Pitstop	57
 How To Upgrade Your Graphics Card.....	 58
Installing The Graphics Card In The System Unit.....	59
AGP Graphics Card.....	60
 Graphics Card Problem Solving.....	 61
Nothing on the Monitor	61
Monitor Works But No Display	62
Monitor Works But Poor Display	62
 Easily Installing Your New Hard Drive	 64
 Repairing The Hard Drive, Hardware And Software	 69
General Hard Drive Troubleshooting.....	69

Use Operating System Utilities.....	70
Check Drive Cables and Connections	70
If the Drive Will Not Boot Up?	71
If the Drive Boots but Hangs Up at Boot?.....	71
 Hard Drive Software Troubleshooting	73
Hard Drive Software Problems and Solutions.....	73
Computer Boots but with Many Errors or Hangs	73
Your Hard Drive may have an IRQ Conflict.....	73
Your Hard Drive Device Drives Causing Problems	74
 What To Do When Windows Won't Boot	75
Won't Boot-Up At All	76
Making a Windows XP Bootable Floppy, if You Still Have a Floppy Drive	76
If The PC Won't Boot Past Windows.....	77
 Here's How To Replace A DVD Drive In Your Laptop	79
 How To Repair Cable, DSL, And Dial-Up Modem Problems	82
How To Setup Cable Modem With A Router	83
A Direct Subscriber Line (DSL) Modem	83
Troubleshooting DSL Modems-Internet Access Needed.....	85
An Older Dial-Up Modem	85
 Tips On Surviving An Operating System Crash.....	88
So Just What is a Hard Drive Crash?	89
Here's How You Can Recover From a Hard Drive Crash.....	92
Following These Steps To Recover Your Hard Drive	93

Components That Make Up Your Computer



A computer is composed of hardware, not to be confused with software, which is installed on the hardware. The basic computer parts are the motherboard, processor, RAM, hard drive, video adapter and power supply. You have to have all these parts to build a basic computer.

The system unit is the core of a computer system. Usually it's a rectangular box placed on or underneath your desk. Inside this box are many electronic components that process information. The most important of these components is the central processing unit (CPU), or microprocessor, which acts as the "brain" of your computer. Another component is random access memory (RAM), which temporarily stores information that the CPU uses while the computer is on. The information stored in RAM is erased when the computer is turned off.

Almost every other part of your computer connects to the system unit using cables. The cables plug into specific ports (openings), typically on the back of the system unit.

The Ultimate Computer Repair Guide

Hardware that is not part of the system unit is sometimes called a peripheral device or device.

The motherboard is the most important part of a computer. Every other computer part connects to the motherboard. If the motherboard does not work, none of the other parts will either.

The cpu or processor is the computer's brain. It is in charge of telling your computer what computer processes to do and when to do them. It is mounted onto the motherboard along with the RAM.

Random Access Memory, also known as computer memory reads and writes data. RAM does not store information but can remember information while your computer is on. Once you turn off your computer, any information stored in the RAM is erased. The more RAM your computer has, the faster it can run.

A hard drive stores programs, images, and all other files. Unlike RAM, a hard drive stores and remembers information. The video adapter allows your display device to display a picture from your computer. Video adapters are also referred to as a graphics card, video board, video controller, and video card.

A power supply unit supplies power too all of the computer components. Without this you would not be able to turn your computer on.

Your computer's not complete without such peripherals that must be attached to it. One such peripheral would be the Monitor that displays all data. And you cannot give the computer instruction with having a keyboard attached. A Mouse will make this task even easier.

In this guide, you'll see detailed photos, audios, and videos of these components, how to install, upgrade, and trouble most.

So, Let's Get Started.....

How To Add Random Access Memory To Speed Up Your Desktop



When you purchase a computer, it will come with an adequate amount of RAM or Random Access Memory to run the operating system and all software that is installed.

However, as you install more software, your PC will begin to slowdown. The amount of RAM you need depends on your operating system on all applications you may be running on your computer at any one time.

Installing memory is one of the easiest tasks. Take the time to first be sure you have the right RAM for your computer. If you're in doubt take it back to the place of purchase and be sure you have the right RAM.

After being certain you have the right RAM, you're ready to open the system unit and begin. But first, you need to remove static electricity. Watch this short video about [installing RAM Memory](#) on the [motherboard](#).

Remove static electricity before you remove the new memory from its protective wrap. It's best to purchase a Wrist Strap if you plan on working in your PC often. But if not, you can simply touch a door knob or your computer's metal case to remove the static electricity. To install your new Ram, perform the following.

Check to see if you have ample light. You may want to have a container to place small screws in. The system unit cover may have small screws and you don't want to lose them.

After you have plenty of work space and ample lighting, prepare your mind as well. Make this and every other adventure of working on your computer educational and fun.

Take the time to study the actual components inside your computer. You'll be glad you did should something go wrong. Follow these steps to install your drive.

First: Turn off your computer and unplug all peripherals. Take notice of how you unplug or disconnect any devices. [Locate the RAM](#) on the motherboard.

Second: Remove the side panel of the tower system or the cover if you have a desktop. Place the panel in a safe place well out of the way.

Third: Before touching anything inside the system unit, remove electrical static charge from your body by touching a door knob or any unpainted metal surface.

Fourth: Remove the new memory from its protective wrapping and locate the [sockets or memory banks](#) to install the new memory chips.

Fifth: Notice the type of retaining clips that hold the chips in place. Remove any old chips you intend to move.

Now to be sure you won't damage the chips, ground yourself again to remove any remaining static electricity.

Sixth: Pull the retaining clip open and carefully slide the RAM Chips in their memory banks. Push the clips back over the new memory chips.

Seventh: Check and double check the firmness of the chips by gently trying to move the from side to side. Take a good long look at the chips for anything that looks unusual.

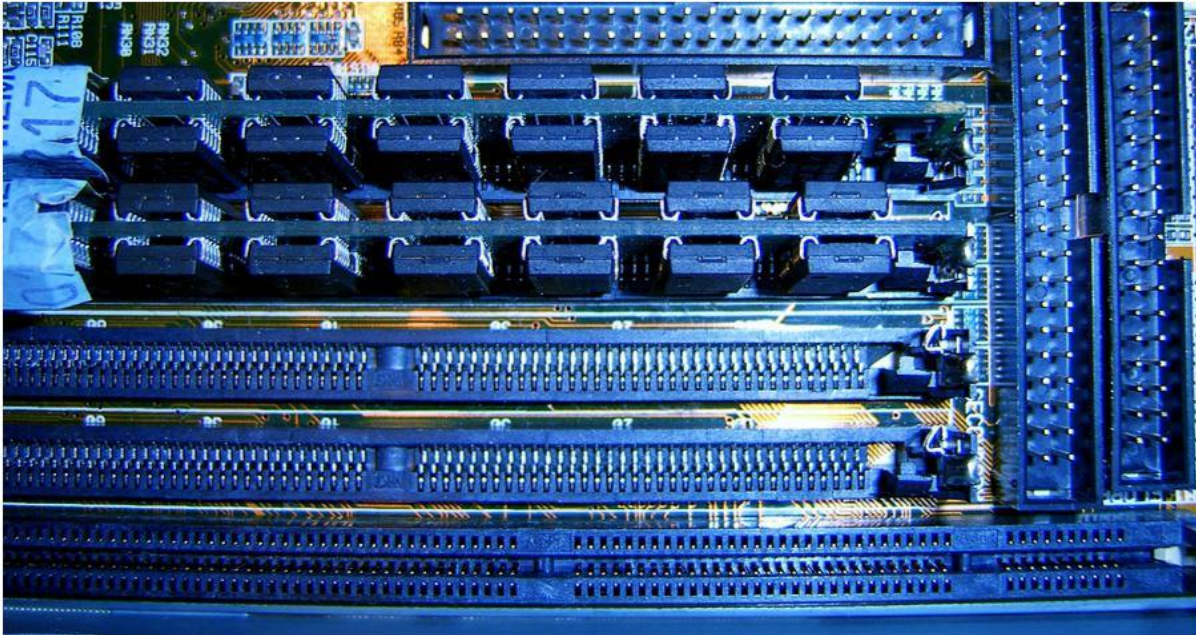
Eighth: Replace the system unit cover and reconnect all peripherals. Reboot the computer and the operating system should recognize your new or added memory without any problem.

Its that easy when it comes to installing new or more memory. Read your computer's manual first to find out what type of ram memory you have and what is needed for upgrades.

Take time to Visit the [Kingston Memory site](#) above and use their memory configurator to find out the memory you need to upgrade your computer.

And go ahead and enjoy the faster speed you should experience once your new memory is installed. Don't forget to run scandisk, defragment, and disk cleanup to clean your hard drive of extra space.

Install More RAM In Your Laptop For More Speed



Your Laptop is indeed your companion, especially when you're on the go. We often take both our laptops on vacation, in town to catch up on some work. And boosting your knowledge of your laptop with go a long long way in saving you money by repairing it yourself.

Installing memory is one of the easiest tasks. Take the time to first be sure you have the right RAM for your computer. If you're in doubt take it back to the place of purchase and be sure you have the right RAM. After being certain you have the right RAM, you're ready to open the system unit and begin. But first, you need to remove static electricity.

First: Turn Off the Laptop and [remove the Battery](#), normally located on the bottom of the computer.

Second: Turn the Laptop over and [locate the RAM](#) compartment. Some Laptops Memory Module Compartments may be located in another area. Check your owner's manual to be certain.

Third: Remove any and all ESD or Electrical Static Charge from your body and clothes so no damage to the chips can occur. Use a screwdriver to remove the RAM compartment cover.

Fourth: Study the [Memory Modules](#) for a minute to understand how they are installed so you won't forget how to add the upgraded modules. Grasp the clip holding the old Module in place and push it up.

Grasp the module and carefully lift it up and out of the socket. Notice the indent in the module. This allow the module to be installed in only one way.

Fifth: Remove the new RAM from its protective wrap and study it to be sure it is not damaged. Place the module in the empty socket, carefully press down and allow the clips to click in place.

Sixth: Replace the Memory cover, and [Battery](#). Reboot the computer and the operating system should recognize your new or added memory without any problem.

Its that easy when it comes to installing new or more memory. Read your computer's manual first to find out what type of ram memory you have and what is needed for upgrades.

Take time to [Visit the Kingston Memory site](#) above and use their memory configurator to find out the memory you need to upgrade your computer.

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How to Easily and Safely Install RAM



KNOW THE TYPES OF RAM MEMORY HERE

Check to see if you have ample light. You may want to have a container to place small screws in. The system unit cover may have small screws and you don't want to lose them.

After you have plenty of work space and ample lighting, prepare your mind as well. Make this and every other adventure of working on your computer educational and fun.

Now go over to www.ultimatepcrepair.com/photos.html to familiarize yourself with all components inside the PC. Take the time to study the actual components inside your computer. You'll be glad you did should something go wrong. Follow these steps to install your drive.

Turn off your computer and unplug all peripherals. Take notice of how you unplug or disconnect any devices.

Remove the side panel of the tower system or the cover if you have a desktop. Place the panel in a safe place well out of the way.

Before touching anything inside the system unit, remove electrical static charge from your body by touching a door knob or any unpainted metal surface.

Remove the new memory from its protective wrapping and locate the sockets to install the new memory chips.

Notice the type of retaining clips that hold the chips in place. Remove any old chips you intend to move. Now to be sure you won't damage the chips, ground yourself again to remove any remaining static electricity.



WANT TO SPEED UP YOUR PC? TRY ADDING RAM

Pull the retaining clip open and carefully slide the RAM Chips in their memory banks. Push the clips back over the new memory chips.

Check and double check the firmness of the chips by gently trying to move them from side to side. Take a good long look at the chips for anything that looks unusual.

Replace the system unit cover and reconnect all peripherals. Reboot the computer and the operating system should recognize your new or added memory without any problem.

Its that easy when it comes to installing new or more memory.

Read your computer's manual first to find out what type of ram memory you have and what is needed for upgrades.

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And go ahead and enjoy the faster speed you should experience once your new memory is installed. Don't forget to run scandisk, defragment, and disk cleanup to clean your hard drive of extra space.

How To Troubleshoot RAM Memory



When you [have memory problems](#), you know you are limited in your troubleshooting and hopefully you will be able to resolve the problem quickly. Its a great idea to first verify the problem exist.

Shutdown and reboot your computer to see if the problem re-appears. Sometimes rebooting the PC will correct the problem and you'll be on your way.

Memory problems are normally caused by defective memory chips, installing the chips wrong, and the memory being configured improperly. So often, the suspected memory problem may be due to software, especially if new software was recently installed.

Many [seemingly memory problems](#) are sometimes problems coming from other components. If you see error messages on the monitor as the system boots up, be sure to write the message down for reference later in troubleshooting.

Memory problems can come from brand new computers. When this is the case, you'll need to troubleshoot the computer as a whole. In this case, contacting your PC's support will be your first line of defense.

If The Computer Fails To Boot: If you installed new ram memory, check to be sure the memory modules are completely installed. It may be that they are not fully seated in their banks.

Check the same even if your computer is brand new. Installation at the factory often leads to computer failure by employees making mistakes when computer assembly is done.

If Computer boots but the screen is blank: this is another symptom of loose memory chips. Another cause may be you are installing the wrong type of memory.

This problem can also be caused by video display problems. If the monitor brightness and contrast are turned down, the blank screen will be the result. And a loose or uninstalled video card will produce the same failure.

If Computer Produce Error Codes: write the code or codes down and look up the codes in your user manual or support web site. If you install mismatched memory chips, certain error codes will appear.

If PC boots but all memory not recognized: check to see if you installed the right type of memory. Again, even if the computer is new, verify this by contacting your PC support by phone, or email.

THAT "General-Protection Faults" Error is caused when two or more software programs are trying to use the same memory address. In most cases, simply rebooting the computer will correct this.

Memory Testing Software Utilities

Memory problems are sometimes caused by other components in the system unit. Dirty and corroded slots can produce memory bank problems.

There are some good ram memory testing software that you can download when you suspect your system is having memory problems. MemMXTest is a utility to test memory at <http://panic.et.tudelft.nl/~costar/memmxtest> where you can download their program.

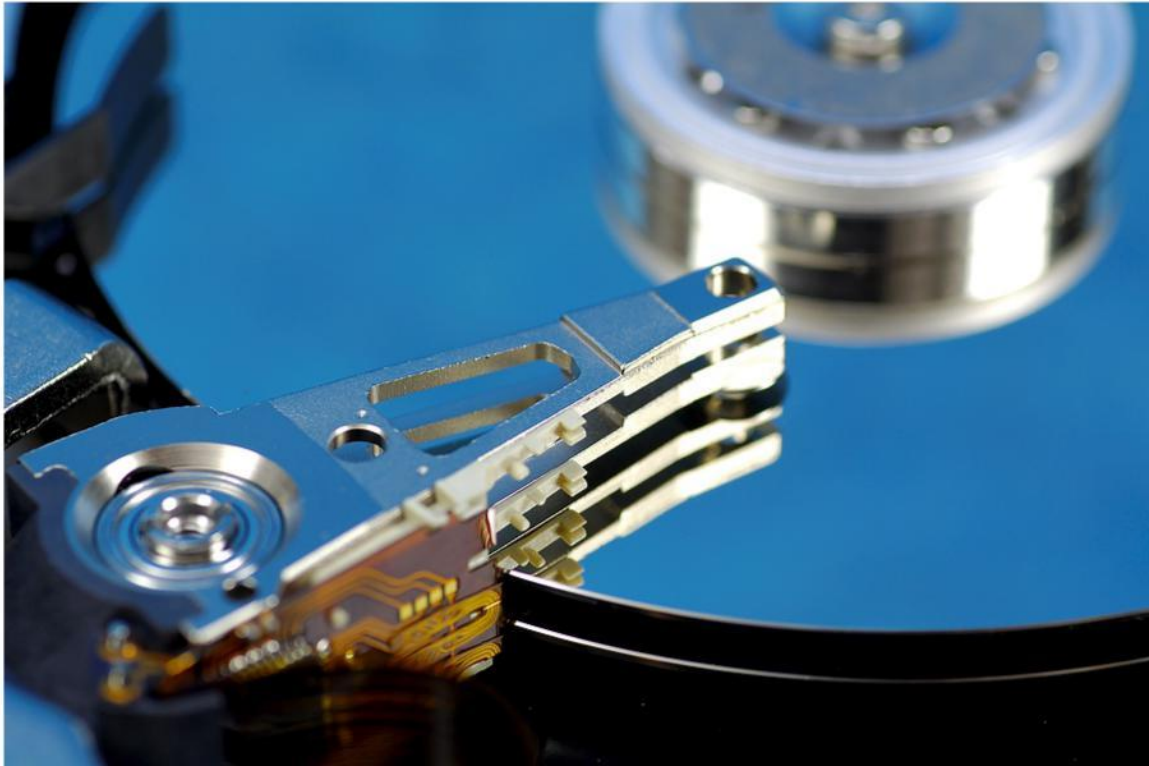
Gold Memory is a neat stand alone memory testing shareware at <http://www.goldmemory.cz/index.php> and you can use it free for the first 30 days. After that you will need to register the software for just \$24.00.

Brain Check at www.brain.com/braincheck_sst_1pg.htm is an online memory test site where, after you sign up for an account, you can scan your computer's memory in the hopes of detecting early ram memory problems.

Open your computer's system unit and locate the ram memory. Do you know what type it is. Do you have the user manual readily available should you need to quickly identify your memory chips.

Be well prepared ahead of time to know where your memory is located in the computer, what type they are and the indications that your memory is going bad. Take the time to understand your computer's memory now.

Get More Computer Storage By Installing A Larger Hard Drive



Your [Hard Drive](#) is one of those components inside your computer that is mostly likely to fail as the system gets older. This is because it is a mechanical device that uses motors, and other moving parts that are guaranteed to wear out.

Before you remove the system unit cover to gain access to [your hard drive](#), remember to remove any and all ESD (Electrical Static Discharge) from your body. This is done by touching an object such as a doorknob or the case of the system unit. After this safety precaution is done, remove the system unit cover and [locate the drive](#).

Depending on the location of old your Hard Drive, you may have to remove other components just to have access to it. If so, take very good notes of [everything you disconnect](#) or remove, you can refer to them later as you replace the components.

Look to be sure you have empty drive bays to install extra drives should you decide to add a second drive.

Once the drive is clear of other cables and components, carefully remove the power and data cable from the drive and remove the drive retaining screws. Some drives are [mounted on rails](#), if this is the case, just slide the unit out through the front or top of the system unit chassis.

Separate the drive from the rail and now install the new drive to the rail. Watch those screws, they are small and can be easily lost. Remember to ground yourself from time to time to remove electrical static buildup. Watch this short video to see [the Drive being installed](#) in the system unit.

When the drive is mounted on the rail, (if you have one) write down any information on the front of the drive that may give you the type, model number, sectors, cylinders, access time and other information that seem important. You may need it when you configure the hard drive. Nearly all new hard drives have software that does this for you.

After being certain that all cables, connections and all other components are in place, replace the system unit cover, reconnect all peripherals to the system unit and plug it into the wall outlet.

Turn on the computer. Now you will need to tell the computer that it has a new or different hard drive. You will have to start your PC with a bootable floppy disk if you replaced or installed a new hard drive.

If your new drive came with a owner's manual, keep it handy for future reference and you may need it to config your drive. Even though you have installed the [drive with its cable](#), the computer doesn't know that you have done this. So we must tell the PC and while we are at it, we must make the drive useable by partitioning and formatting it.

Your Hard is a delicate device and will wear out soon. Learn about the types of Hard Drives, how to remove and install them quickly. Doing so will save you on downtime with your computer and you'll earn extra cash by installing new drives for your relatives and friends.

Here's How To Replace A DVD Drive In Your Laptop

Replacing a DVD drive in a laptop is very simple. Even if you don't have a lot of technical expertise this is something that you can do. There are no screws involved or opening up of the computer case. This is because most laptops all use modular drives that pop right out.

A DVD burner is the drive that allows you to write data or video/audio files on a DVD disk. The amount of information that can be written to a DVD is typically 4.7 GB. However, double-layer DVD burners can write up to 8.5 GB of data on a disk. Devices with a LightScribe-enabled optical drive allow you to burn DVD labels as well.

An installation of a new DVD burner on your laptop may be required due to the failure of the original hardware or as an upgrade from a CD/DVD-ROM (read only) drive. Get a replacement from the manufacturer.

Laptops don't have big open cases that will fit any DVD drive you buy. The cases for the drive are somewhat proprietary to the manufacturer of the laptop. Call your manufacturer and give them your exact model and serial number to order the right sized DVD drive.



Shutdown the laptop and make sure it is completely powered off. Disconnect the plug from the battery and set the laptop on a flat dry surface. Turn the laptop over. You may have to check your manual but most laptops have a button to push or slide to release the drive. Push the drive straight out and remove it from the laptop. Insert the new drive in the reverse way you pulled out the old drive.

Insert an edge of a paper clip into the emergency eject hole of the DVD drive to open it. Gently pull out the disk tray. Locate two screws (one on some laptop models) on the back laptop panel that secure the DVD drive. You may need to consult your laptop manual for the information specific to your laptop.

The Ultimate Computer Repair



Unscrew the screws and carefully pull the DVD drive out of the laptop. Insert the DVD burner on the place of the old drive and slide it all the way down. Complete the hardware installation by securing the DVD burner with the screws you removed earlier.

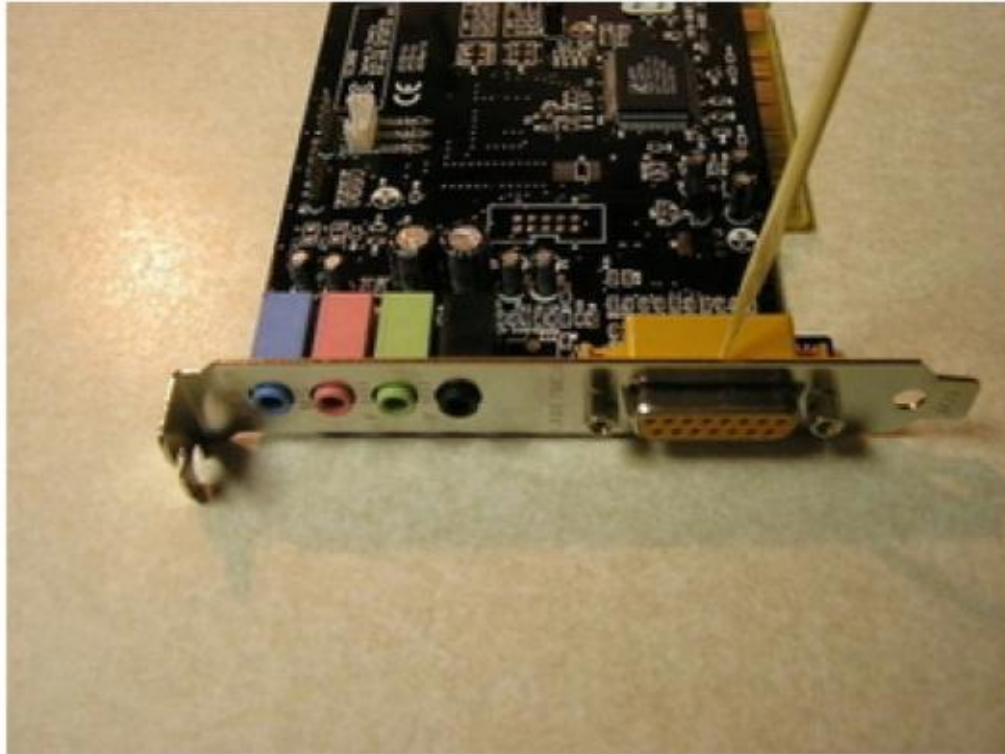
Turn the laptop right side up and turn the power on. The DVD drive will basically be automatically found and work either fully or with basic functionality. Install any drivers by inserting the CD that came with the drive or by downloading them from the website. Installing the driver may add advanced functionality that the older drive did not have.



Its that easy to remove the old Dvd Drive and replace it with a newer one. Whenever possible, get your hands on a laptop and try this yourself. Its both easy and rather fun as well.

Power is knowledge and using your knowledge the right way can bring you many financial blessings. Don't tamper with a laptop that's under warranty. Grab an older model and then Practice...Practice...and Practice some more.

Installing A Sound Card The Easy Way



Sound Card installation is indeed simple and rather straight forward, that is,when you know how to do it. Opening the system unit can be a scary task for some of us, especially if we have not performed this task before.

The key is to be calm,take your time,and make it fun. Look forward to looking inside the computer and see just how many components you can readily identify. Remember to touch a doorknob or any grounded metal object to remove static electricity from your body. To install your new sound card,let's perform the following.

Open The System Unit

Remove the system unit cover and locate an empty expansion bay. Note that the rear cover of the slot may have to be removed on most computers. Before touching anything, ground yourself to remove any buildup of electrical static charge from yourself. Touching the computer case or a doorknob will do the job.

With the cover removed from the system unit, lay the computer on its side. You may have to remove other connections or devices to have clear access to the empty card bay. Take notes of any devices or connections that you make so that you can refer to them during installation of the new card.

New sound cards must be installed in [the PCI slot](#). After removing the small rear cover, remove the new card from its protective wrap. This wrap is intended to keep the card away from electrical static charge.

Installing The Sound Card

Grasp the card and [align it with the PCI slot](#). Slowly but firmly press the new card completely in the PCI slot. Check to be sure no part of the yellow contacts can be seen when the card is pushed in.

[Secure the sound card](#) to the system unit by using the screw that you removed when removing the rear cover. Use this screw to secure the card to the case.

If you have on sound installed on the motherboard and you want to install another card, most systems will disable the motherboard integrated sound. If not, consult your computer manual to find the correct jumpers to disable the motherboard sound.



Now the [cdrom audio cable](#) must be connected. Insert one end of the audio cable for the cdrom or dvd drive into the CD-IN socket of the sound card. The other end is inserted into the audio-out socket of the cdrom or dvd drive.

Check and double check all connections before you replace the system unit cover. If all connections are good, replace the cover and reboot the system after all peripherals are reconnected.

Replace The System Unit Cover

The [computer should automatically detect](#) the new card and attempt to install the device drivers needed to communicate with the card. Windows should prompt you to install the software needed to allow the card to communicate to the computer.

The new card should have come with a cdrom with device drivers and other software for the card. Simply inserted the cdrom in the cdrom drive and select the cdrom installation when prompted.

Test the new sound card by re-booting the computer. You should hear the Windows startup sound if the card is operational. In some cases, the new card will be operational without rebooting your computer.

Installing or upgrading your sound card is that easy. You will need a quality speaker system to take full advantage of your new sound card. Get a speaker system with a super woofer for maximum sound quality.

Those new games and your new music cdroms will be much more exciting with that new sound bursting from the new sound card.

If you're blessed enough to have two computers, install the card in the other system, at your convenience. This will give you the added training of installing computer components.

Can You Install A New Sound Card In Laptops?



The sound card is an integrated on-board in laptop. If you want to improve the sound quality, or you want to use advanced editing and recording functions, you may have to install a new sound card. The sound card is an integrated on-board in laptop.

If you want to improve the sound quality, or you want to use advanced editing and recording functions, you may have to install a new sound card.



There are two different kinds of sound cards available for laptops. Below are the instructions for installing each.

Locate the PCMCIA slot on your laptop. On most older laptops, the PCMCIA slot is located at the left side of the front of the computer.

A PCMCIA card is a thin, credit-card sized accessory generally used to add features to laptops. It's also periodically used in smaller sized industrial and mobile computing applications.

You can install the PCMCIA card while the computer is running if your computer supports hot-swapping. The operating system will automatically recognize the new hardware and find the software for it.

Press the "PC Card Eject" button.

Remove the PC card cover. Retain it so that you'll have it if you remove the new PC card later.

Insert the PC sound card with the upper label facing up. Push it gently into place.

Your computer will make a sound to indicate that the card has been recognized.

Install the necessary drivers and software from the CD that came with your new sound card. And That's it. Try this on your laptop, now, before you have sound card problems.

Installing a USB Sound Card in Your Laptop

The newest laptops ship with no PCMCIA slot, only the ExpressCard slot. Normally, there are no sound cards that fit the ExpressCard slot so you'll need to use a USB sound card or system.

Follow these steps to install a USB Sound Card.....

1. Plug the USB sound card into the appropriate USB plug on your laptop.
2. Wait for the computer to recognize the new USB device.
3. Insert the sound card manufacturer's CD if prompted to do so.

And you're off and running. Use the USB Sound card without the worry of having to open any computer.

Quick and Easy Sound Card Problem Solving

When something goes wrong with the sound in our computer, we want it fixed, and fixed now. Whether it's our favorite game we are playing, or that new multimedia application we just installed, we simply must have our sound.

When performing any troubleshooting procedure, always perform the basic procedures before you remove that device. It's good to look at your sound card and become familiar with its location, the type of slot it is inserted into or if it is [motherboard integrated](#).

Carefully take note of any cable, connections on or near the sound card. [Sound Card](#) audio loss is no fun when you are so used to multimedia sound blasting out of those super woofers.

Follow these procedures as a guideline to correcting sound card woes. Be sure to consult the sound card or computer manual for actual repair procedures.

First: you check to see if the speakers have power. Don't take this for granted. It does happen that the speakers have no power or the [volume was turned down](#).

Second: Check to audio cables that connect the speakers to the computer. Check to be sure these cables are secure and that the audio connector at the rear of the system unit is inserted into the right connector. These connections are color coded on new cards.

Third: Check the possibility that your speakers [may be on the blink](#). Although the speakers very rarely fail, it is a possibility that should not be overlooked.

Fourth: Before replacing the system unit cover, check and double check to see if the card is fully inserted into the PCI Slot. Its a possibility the card may have crept out of the slot if it was not properly secured to the case.

Fifth: After replacing the system unit cover, reconnecting all peripherals, and turning on the computer, check the Windows system folder to see if there are problems with the [device drivers](#) which are small software used to allow the sound card to communicate to the computer.

After you have performed these procedures and the sound card is not working at all, remove the card from the computer and try inserting in another system. As a last resort, you maybe able to save the purchase of another card, when there was no need.

General Computer Troubleshooting



Troubleshooting Do's are extremely important to remember since they will save you money as you follow these steps to prevent damage and save you grief should you ignore any of these which may result in a problem showing up.

Take the time to go over these troubleshooting Do's first and pay close attention to removing any and all static buildup from yourself.

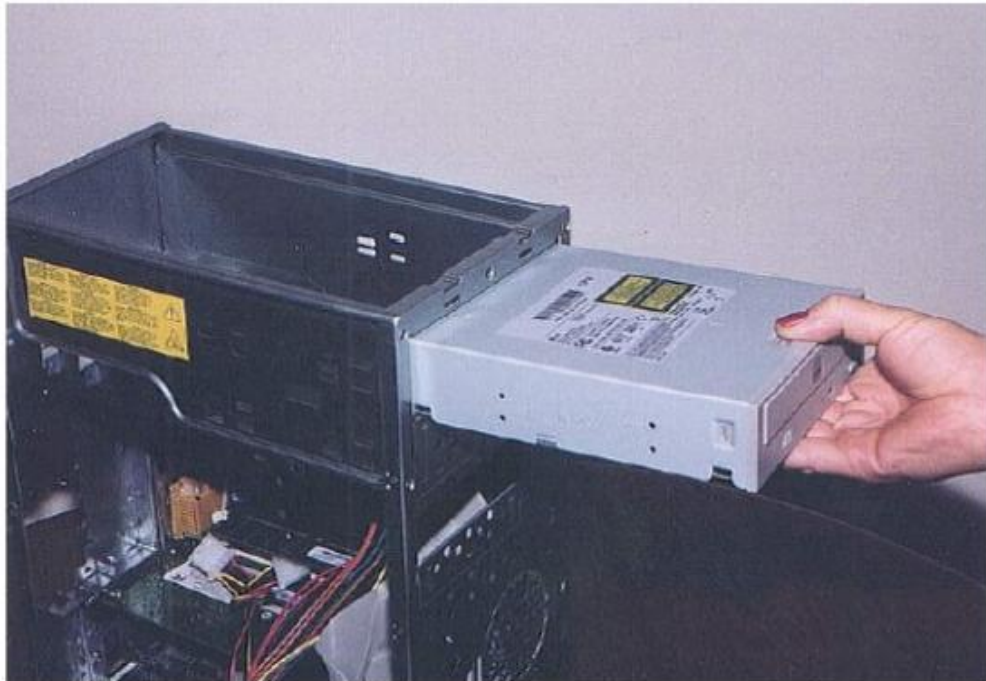
Troubleshooting Do's consist of the following procedures.

DO make sure your hardware device drivers are up to date with any patches downloaded and installed. Take the time to visit your video card, sound card, motherboard, and other hardware manufacturer web sites to see if you have the most up to date device drivers.

DO check that all connections are seated firmly and properly in their sockets. This is a must check as these connections do tend to work themselves loose over time and cause problems you may blame on software.

If you have been working in your system unit recently and you noticed a fault manifesting itself, you want to go back and take a look at all connections you were near. Look to be sure your fingers did not press against other connections and causing them to work loose.

DO perform preventive maintenance on your computer and keep it clean regularly. Its a good idea to open up the system unit and remove all dust that have accumulated on the motherboard as well as all other boards.



Dirt and dust conducts heat and will cause the computer to run at higher temperatures than it normally would. Take a look at the vents in the back of the case and remove dust that have accumulated.

The best way to remove dust from all circuit boards in the system unit is by a can of compressed air, available at any computer store and now, most retail stores.

DO make absolutely sure you have removed any and all electrical static buildup from yourself before working inside your computer and before touching any new circuit cards and chips.

Please don't overlook this troubleshoot tip. It would be a tragedy to purchase new memory only to short circuit them either before you installed them or you do so the process.

RAM, short for Random Access Memory chips are very vulnerable for this. So to rid yourself of Electrical Static Charge you may consider purchasing a Wrist Strap. This tool is especially designed for this. If you don't want to go this route, you can simply touch the case's metal chassis.

Troubleshooting Don'ts are just as important to remember and follow as those troubleshooting Do's and they will include the following.

DON'T allow your computer to run hot. Each device you install in the system will generate heat. Be sure your system is well ventilated. If you install more than two extra devices, you should consider installing an extra cooling fan.

Cooling fans are easy to install and will be well worth the effort. They come with instructions that are easy to follow. It may be best to simply keep the extra devices in your system down to two or three at the most.

DON'T use a brush when you decide to clean the circuit cards and motherboard in your computer. They create static electricity that will render them useless. If you don't have a can of compressed air, wait until you can get one.

DON'T download and install files from the Internet without scanning them for viruses first. This is particularly true for any applications or files you download from file-sharing networks.

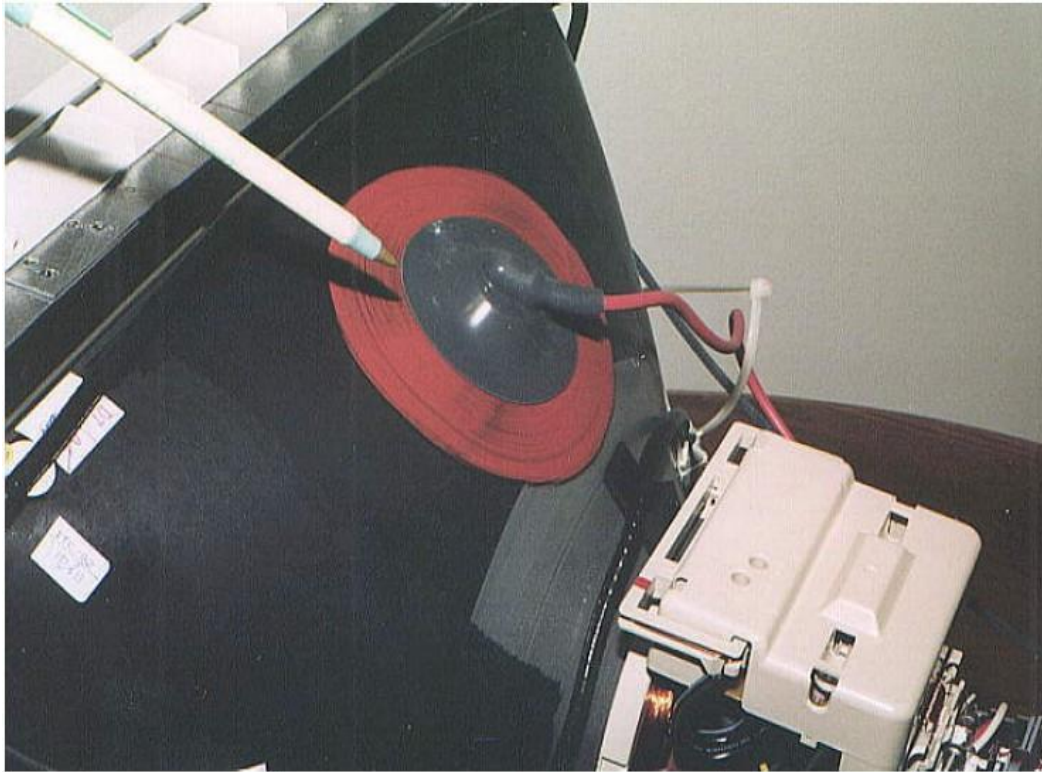
DON'T plug in your mouse, keyboard, or any peripheral while the computer is on. Switch the computer off before disconnecting or connecting anything from it.

About the only device you can connect to, disconnect from your computer while it is running are USB devices. USB stands for Universal Serial Bus and now come in the new version 2.0.

You may have escape that one time when you turn on your computer and something went wrong. But it will happen at one time or another.

Don't add to the problem by failing to **Do** such tasks as removing static buildup.

Learn to troubleshoot your computer with great care and you'll be richly rewarded by the fact that you were able to diagnose the problem and were safe in the process.



How To Revive A Dead Computer

When it comes to PC Repair, PC Training courses both online and off, offer a wide range of computer training programs and some of the best computer training software. But understanding your computer will help you learn how to bring it back to life or at least understand why you can't.

It's not something we like to think about but your computer will fail, if you keep it long enough. It may be a simple problem, such as the floppy drive not reading the disk to a major system crash.

Because computers are run by operators, User Error is the most common cause of computer malfunction. When the user is at the computer, he or she may add or delete certain files. Or he/she may remove or exchange certain hardware features.

When we look at user error, we must remember that since we're human, the user error may be easy to solve by simply asking the last user if he/she installed any software, re-configured any software or hardware settings, etc.

A large percentage of computer malfunctions are due to environmental factors such as power surges caused by lightning, resulting in over-voltage.

Another cause for failure may be room temperature being too high or low, as well as dust, dirt, or sunlight. If you're in business and heavily dependent on your computers, such factors as room temperature, sunlight and protection against power surges is of the utmost importance and simply cannot be overlooked.

The most common pc problem is when you can't access your PC at all. When you turn on the power switch, **NOTHING HAPPENS**.

Here is a quick checklist of troubleshooting procedures you should follow if you encounter this problem. We also have videos you can download from the Internet should you need assistance in just how to perform these procedures:

Try the Power Switch a second or third time. If nothing happens..

[Check the wall outlet for power](#). If the outlet has power. Check the power cord itself from wall to computer.

[Check the Power Supply](#) inside the System Unit.

[Replace the Power Supply](#) rather than trying to repair it.

If the system make those click noises, but the screen is blank, [check the Monitor](#).

If the monitor proves to be good, [check the Video Card](#), even in a new system.

Another big headache you will most likely encounter if you're a regular user of your computer system, is the fact that Windows will fail to load or the system's POST will fail to run. Download the file below to learn much more about the Power On Self Test. Don't forget those preventive maintenance procedures that can be done often to keep your PC running at peak performance.

Running such Windows utilities as Scandisk, Disk Defragment, and Disk Cleanup will help your computer performing at its best. Using a can of compressed air removes dust that could build to the point of causing a short.

If you get the computer to boot but it does not want to read from the hard drive, the Master Boot Record on the hard drive may be corrupted or even missing. To verify that the master boot record has not been damaged...

Boot from the floppy disk that contains the FDISK program and type the command "fdisk mbr" to restore the master boot record onto your hard drive.



How To Speed Up Any Desktop Or Laptop Computer

When you start using a new computer it's fast and may impresses you as a big change from before. On the other hand you may be disappointed at the relatively small increase in speed. Even if fast, over time your machine may get bogged down.

After a few months you may wonder if it is worth computing at all, considering how long it takes to do anything.

The truth is by default when your computer arrives it has many services and unneeded programs that can be turned off or deleted without harm. Also with a machine that has slowed over time, many things can be done to improve the speed. In fact, after a treatment like here's, you'll be amazed what a tiger was under hood. If you were considering it, you may decide to postpone the purchase of a new one. The various procedures and habits you can perform and change are as follows:

Make Sure You Have Enough Memory

Choose Start Button → Start Menu → Settings → Control Panel → System → General Tab

Before You Buy Computer Memory Upgrades, you can find out how much you have by clicking on the System Icon in the Control Panel. The amount is on the first tab that comes up, the General Tab.

With Windows 2000 or XP, you really should have at least 1 GB of memory and 2 GB is a more comfortable amount. With Vista be sure to have 2 GB of memory you'll be much happier.

Be Sure To Clean Up Your Desktop

Windows puts everything on your Desktop into memory, for rapid loading purposes.

If you have a lot of big files there, that means trouble. Apparently folders are not loaded. Shortcuts apparently are loaded, but it stops there. The applications the shortcuts point to are not loaded. Maybe downloaded exe files are though.

Make Sure You Have a Fast Enough CPU Chip



Only Windows XP and Vista, in the System Applet again, will show you how fast your processor is. 1 GHz Processor is really the minimum these days. If you have less than this, spare yourself some frustration and buy a cheap new computer for \$250-\$400 from Dell, HP, Compaq, E-machines, or Gateway. You'll be much happier.

Uninstall Those Unneeded Applications To Free Up Memory

One last suggestion of the about.com article that sounds useful, is to uninstall unneeded programs. The reason for this is apparently the registry settings made by installed programs can eventually slow down your machine. A smaller cleaner registry is therefore useful. A registry cleaner might be a good tool to use too after removing the unneeded programs. It will be discussed again below.

[Do You Know the Types of RAM? It's Here!](#)

Get And Keep Your BIOS Fine Tuned

In the BIOS (or "Setup") stop floppy seek, stop memory check (Fast Boot), and put the disk on best performance setting instead of silent if you have it.

For a faster boot up enter your Bios, by clicking the Delete, F2, or F12 key or whatever flashes on the screen when you turn on the computer. Next choose boot order, and remove all entries except the first one which you should set to your hard drive. This will stop the most of the time useless seeking of a floppy disk at boot time.

If you need to reinstall Windows or some other operation, you can always go back and change this entry to floppy or CD. Also there should be a setting in your BIOS to make the boot, quick.

Patch Your Computer To Keep It Updated

Go to Windows update on the top of your start menu and download all the patches for your operating system, whether they are optional or critical.

Better yet, go into the Control Panel, choose Automatic Updates, Choose Automatic (your screen might look different with a different version of Windows). Make it Every Day at a time when you are not using your computer.

Generally if you have cable or DSL, despite the risk of infection, computers should be kept on and attached to the Internet. This is to allow antivirus and security patches downloading at off-peak hours.

Keep Your Antivirus Up to Date and Scan Your Disks

Bring your antivirus program up to date and regularly do a full virus scan of your computer. Check your antivirus program as it will tell you when the last full scan was done. You may be surprised to see it is not what you thought, but was done months ago.

If you don't have an up to date antivirus program, and don't want to pay for a new one, there are several high quality free ones available to the private consumer.

They are: AVG, Antivr, avast, PC Tools antivirus, Comodo antivirus and the open source ClamAV.

Also look into a new different kind of antivirus program ThreatFire which you can use to supplement your other antivirus. ThreatFire doesn't look for the fingerprints or DNA of known viruses. Instead it looks for suspicious behavior like key logging.

Also try the no longer free WinHki Anti-Virus, which acts as a supplement to normal Anti-virus program like above. WinHki calculates the checksums (a mathematical calculation extremely difficult to fool) of your files on initialization.

After that, whenever a virus changes a file it will be flagged by WinHki because the checksum will change.

Make Sure Your Antivirus/Internet Security Programs Run at Night

If you are noticing slowness in your PC and you hear your hard drive churning, it may be because the antivirus is doing a scan during the middle of the day.

Reschedule it for the night. Also check to make sure it updates at night. While your at it, look in Windows update settings in your System app in the Control Panel in XP or by itself as an app in the Control panel in Vista. Perhaps it is updating during the day too instead of the default 3 AM. That could be a real slower in performance.

[Compare The Best Anti-Virus Programs From Here](#)

Make Sure You Have no Spyware

Run at least a couple different antispysware programs. Perhaps most people these days are buying full computer suites to use with their computers, which should include antispysware programs, but it doesn't hurt to independently run stand alone anti-spyware programs.

The free ones are, SuperAntiSpyware (maybe the best of the free ones now), Spybot, LavaSoft's Ad-Aware, Yahoo Toolbar with Anti-Spy, and "Bazooka Adware and Spyware Scanner".

Note it's also a good idea to use the free spyware prevention tool, Spyware Blaster.

The commercial anti-spyware programs SpySweeper, SpywareDoctor and CA Anti-Spyware (formerly Pest Patrol) are excellent. They cost \$30-40.

Stop Unneeded Startup Programs

New installation of software often adds unneeded startup entries in any of several different hidden locations. These programs will start when Windows starts and take up resources.

The best free program to deal with this problem, is in my opinion, Startup Inspector for Windows.

If you use this program, be sure to select the "Consult" Button in the upper left of GUI.

This will make the program search through its database of startup programs and tell you whether the software is necessary or can be safely removed from the bootup sequence. Windows Defender is Microsoft's similar program. It's standard in Vista and can be reached through the Control Panel. Click on **Tools** → **Software Explorer**, to see all the programs that begin at startup.

Another good choice is Codestuff Starter. This free program has the additional advantage of having a sort of Power Task Manager which will tell you all the programs that are currently running and all their dll dependencies.

Additionally there is a new section on Services, so you can look through these semi-programs that are running in the background and see if there are any you don't need. More on services in a later step.

Unfortunately you will manually have to look up your entries in other resources to see whether the software is necessary for normal functioning. You can also sometimes get info about the manufacturer of the running program by double clicking on its entry in the Startup list. The best database for checking whether programs are necessary is <http://www.castlecops.com/StartupList.html>.



Defragment Your Hard Drive Regularly

Vista now includes an automatic defragment system that is enabled by default. With XP or Vista (if you want to set it off outside the schedule) defragment your hard drive by choosing **Start** → **Programs** → **Accessories** → **System Tools** → **Disk Defragmenter**.

This should be done every week if possible and can take several hour, so again do it at night or while you are at work. There are some free disk defragmenter scheduler solutions, so you can "set it and forget it." They are startdefrag, autodefrag and Lexun Freeware Drivecare. There is also a Microsoft article that tells you how to use Scheduler to schedule defragmentation.

Remove Those Unneeded Files

Hard disk begin to fragment files noticeably and slow down after passing the 50% full mark. For this reason, it is said that the single most important investment one can make to improve the performance of a PC is to purchase the largest hard drive possible.

This situation will change with the advent of solid state hard drives as the files don't fragment meaningfully in these sort of devices. At any rate if you have a hard drive and it's over 50% full, use a program like CCleaner or Microsoft's disk utility to get rid of unneeded files.

Also uninstalling unneeded software can improve performance for disk space reasons and because programs often install right click options which disappear after uninstallation. This is valuable because menus are often built on the fly and take time to rebuild each time you open them. With less options there's faster performance.

Move the Page File to Another Partition

The page file is your virtual memory. Windows uses your hard drive as a secondary source of memory in addition to your RAM memory. If you move this file to another partition then the one where Windows is installed this can increase performance.

You can change this setting here: **Control Panel → System Applet → Advanced Properties → Performance Settings Button → Advanced Tab → Virtual Memory Settings Button → Click on the C drive** and change the setting to no virtual memory and hit the "set" button → move the selection to another partition and set it to 150% of the amount of RAM memory you have in both the minimum and maximum amounts. Then click the "set" button.

Stop File Indexing

By default, in order to speed file searches in XP and Vista, Windows indexes the entire drive. However most people do not search very often and find that the overhead that the process represents in terms of memory and CPU cycle does not justify the short time lost looking for files that have not been indexed once in awhile.

It is true that this indexing is only supposed to take place during times when the machine is not in use, but the system doesn't work perfectly and makes for continual noise from the hard drive through out the time the PC is on.

At any rate to stop indexing is a bit of an involved process.

To start it, right click on your C: drive in My Computer or Explorer and choose "Properties". Simply uncheck the checkbox "Allow the Indexing Service index this disk for fast file searching" → In the next Window that comes up, choose the radio button next to "apply changes to C:\, subfolders and files. That's the easy part.

Because it's applying the changes to all the folders, this process takes up a lot resources and time. As a shortcut to all this you could stop the indexing service in XP by typing type "net stop CiSvc" without the quotes. For a long time stop of the Indexing Service you would need to disable it.

Type services.msc in the Run box → right click on the Indexing Service → choose disabled from the Startup type drop down box. In Vista, do the same thing with the command "net stop WSearch" and disabling the Windows Search Service.

A third way to do this in XP and Vista is to go to Add/Remove Programs in the Control Panel (Programs and Features in Vista) and choose Add/Remove Windows Components (in Vista "Turn Windows features on and off"). There you'll find the Indexing Service which you can uninstall. If I remember correctly with Vista, there is some Indexing that goes on even if you have done all three of these things. This might be related to Vista's Prefetch and Superfetch systems.

Turn Off Animations

In XP and Vista, some visual effects have been added to the basic Windows 2000 appearance. These can be removed to improve PC speed.

You can do this here:

Control Panel → System Applet → Advanced System Settings (in Vista) or Advanced tab (In XP) → Performance Settings Button → Visual Effects → Adjust for best performance.

You may want to restore the use of smooth edges for screen fonts and the showing of thumbnails instead of icons (In Vista only).

Clean the Registry

Over time the registry gets clogged up with useless registry settings that slow a PC. Freeware to fix this issue include PC Fixer, CCleaner and Toni Arts EasyCleaner among others.

Stop Unneeded Services

Services are again programs that Windows starts up automatically at startup and run in the background (some of them at least others are started when needed). Many of these are not needed and stopping them can help speed up you considerably.

To get to services, click on the Start Menu and in the Run dialogue box add "services.msc" and hit return. Now, consult one of the lists on the net, which list which services are necessary and which are not.

Look at a program called WinServices. If you download the mini setup of version 2.1.4.0, and choose **Tools** → **"Program Settings"** → **Columns Tab** → **Select Activate Recommendations** → **check "Suggested Settings" and "Safely disable"**, the program will show which services you can disable. Use a little common sense here, for instance Task Scheduler might be better left on. Check with the other sites.

Turn Off Fancy Desktop Backgrounds, and Screensavers

Elaborate background pictures and fancy screensavers can take up an enormous amount of RAM memory and Hard disk space. For instance with hibernation activated, a file easily 1 GB in size is created in the root of the C: drive.

If you are low on hard disk space, this can be vital. These operations can be done by right clicking on a blank part of your Desktop and choosing "Properties." Go to the Desktop Tab and set the Background to "None." On the screensaver Tab, set the Screensaver to "None."

To turn off the Hibernation feature in XP only: **Right Click on your Desktop → choose Properties → Click on the Screen Saver Tab → Click on the Power Button in the lower right corner → Click on the Hibernate Tab → Uncheck "Enable hibernation".**

For Vista see this article in regards to hibernation: <http://support.microsoft.com/kb/929658>.

[Learn All About ReadyBoost Right Here](#)

ReadyBoost for Vista Speeds Boot Times and Other Operations

With Vista, if you plug in USB or other flash memory, you will be given a choice to use the device with machine as ReadyBoost agent. It's a little complicated and I don't understand it, but, the PC uses the drive then for SuperFetch routines as cache memory, whatever that means.

All you seem to have to know is that using USB memory as ReadyBoost can speed boot times as well as other memory intensive activities that the PC would normally use the hard drive virtual memory for. Your free memory can be 256 MB to 4 GB usable by the machine.

You must tell the machine to set aside this amount and you will not be able to use that memory while the card is plugged in the machine. Apparently also the machine learns during each boot up so the boot up times gradually get faster. A Wikipedia article is here and at the end of the Live Links/Additional Resources list:

<http://en.wikipedia.org/wiki/ReadyBoost>.

Note some flash memory is not fast enough to serve as ReadyBoost material.

Change Your PC Use Habits

Things that can speed the Windows experience is to rely more heavily on keyboard shortcuts. Print out a cheat sheet for yourself for reference. Two links are listed below.

Another thing to do is to use Windows Quick Launch Toolbar. You display this right clicking on the **Start Button** → **choosing Properties** → **Choosing the Toolbars tab** → **check the Quick Launch Toolbar display option box**.

If you hold down the control button you can drag shortcuts from the Start Menu or desktop and keep copies in their original locations. Another speed tip is when surfing and downloading start many at the same time, you don't have to wait for one download to finish before starting another.

Also you might try to download the free Opera Internet browser or Apple's Safari for Windows. It is the fastest but will not display some of the pages IE and Firefox can display. I use all three browsers about equally. Another thing to try is to set up category folders in your Startup menu.

You can then drag the programs folders into the folders. This speed things because it takes Windows some time to rebuild its menus each time you click on them. You can get to the Start menu folders by right clicking on the Start Button and choosing "Explore".

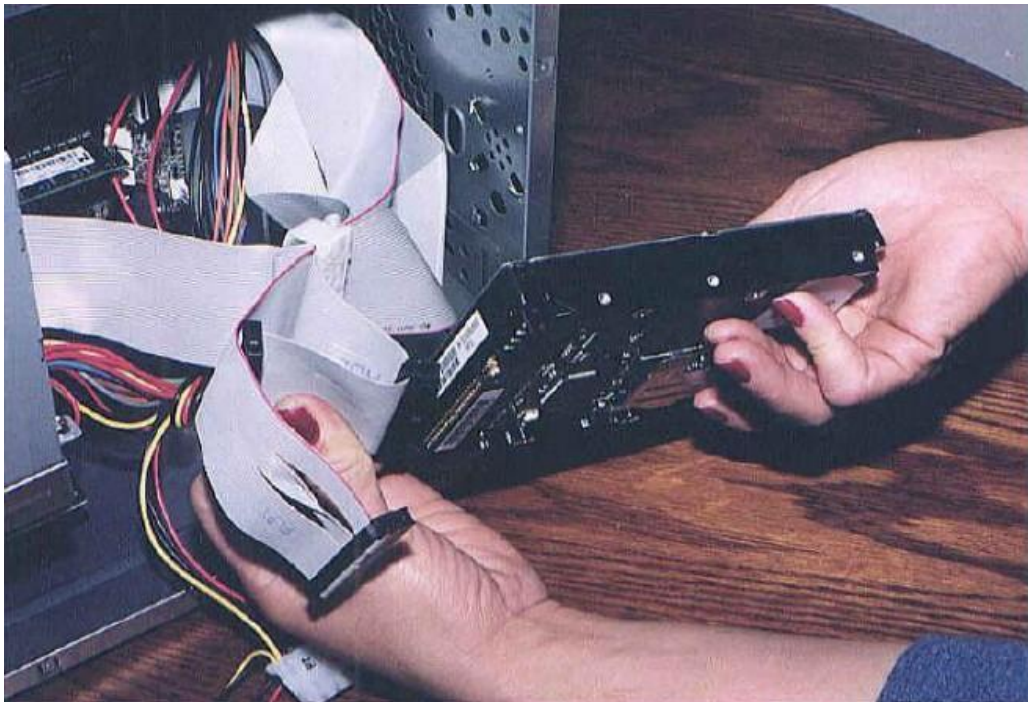
There is a complication that not all the Start Menus are stored under your user name. However if you work at it you can categorize most of your folders by dragging them around and placing them in new folders. You can also right click on the folder and choose cut, then paste them in your new folders.

Additionally if your right click on the Start Menu Folder and it does not give you the cut option, it's probably installed in the Default or All user folders. Choose the "Open all users" option instead to manipulate those folders.

Have Your PC health Assessed for Free at PC Pitstop

PC Pitstop will give you a wealth of information about whether you have enough disk space, how fragmented your drives, whether you have enough memory and many other things discussed below. This is an unbelievable free service and can be done anonymously.

[Visit PCPitStop.com By Clicking Here](#)



How To Upgrade Your Graphics Card



THE PCI-EXPRESS GRAPHICS CARD SLOT ON THE MOTHERBOARD

Your graphics card is responsible for sending data to the monitor to display pictures, presentations, and videos that you love so much. That being the case, it would be a great benefit to you if you get and keep your graphics card up to date.

If your graphics card seems slow you may want to update your current card by visiting its support web site and look for any patches or new device drivers.

Take the time to download and install these files and you should see a big leap in the performance of your graphics card. As you download the files, don't forget where you saved them.

Installing The Graphics Card In The System Unit

After choosing the video card that you know is compatible with your monitor, open the system unit after the system is turned off, unplugged, and all peripherals are disconnected.

You may want to lay the system unit on its side for easier access to the empty expansion bays. Locate the empty AGP Slot to insert the video card and remove the cover plate at the rear of the case with a screwdriver. Save the screw to secure the card later.

Before removing the new card from its protective wrap, ground yourself to remove any and all electrical static charge from your body. Now you can carefully and firmly insert the card into the Accelerated Graphics Port.

Align the card in the port and slowly but firmly push the card in the AGP Port. You may use a slight rocking back and forth motion to seat the card in the port.

Check to be sure it has been pushed all the way in the slot for a solid connection. Secure the card to the case with the screw you saved from the cover plate earlier.

Check and double check your installation process before replacing the cover onto the system unit case. With the cover replaced, reconnect peripherals and turn on the computer.

AGP Graphics Card



Check to be sure the Monitor is connected to the correct connector at the rear of the system unit. While this may sound rather simple, its possible to make the wrong connection. Look for the connector that is color coded with a monitor icon found on the rear of newer systems.

The operating system should detect the new video card and install the device driver software that will allow the card to talk to the computer. A cdrom should have come with the new card with the device drivers and other useful software.

And you should now be able to experience the ultimate in crisp, clear quality graphics on your monitor. Its that easy to install and setup your video card.

Graphics Card Problem Solving

When you have problems with your video display, it can be something as simple as having the brightness turned down to a bad controller on the motherboard. If you have not done, first learn to identify the components of the video display system.

When you look inside any open computer, see if you can locate the Video Card. Is your video card mounted in an adapter slot or is it integrated onto the motherboard. If the card is motherboard integrated, locate the jumpers that will allow the card to be disabled should you need to install another card.

The Monitor is the second component in the video display and it must be compatible with your video card. Be sure the maximum resolution of your video card and monitor are the same. It's even better to have a higher resolution display on your monitor.

Nothing on the Monitor

As we first mentioned, check the brightness and contrast buttons on the monitor to be sure they are not turned down. Yeah, we know. This sounds a little silly to think this could be overlooked, but believe me, it really does.

And while we're talking about simple checks, be sure the monitor is receiving power. If the power indicator light is out, remove the power cable and look for any bent or broken pins or connectors.

Try to reboot the computer one or two times to be sure the system did not just lock up. If nothing happens, replace the cable with a known good cable to prove that the wall outlet or surge protector has power.

If the monitor has power but nothing is on the screen, check the data cable going into the rear of the computer. Be sure the cable is secure. If it is, Turn the power off to the system unit, remove the cable and look for broken, loose, or bent pins.

Finally, if you're blessed enough to have two computers, exchange the monitor with a good monitor to see if it works. Replace the old monitor if the new monitor works. If the new monitor fail as well, remove the system cover to inspect the Video Card.

Monitor Works But No Display

When the Monitor is known to be good but its screen is still blank, the Video Card is the most likely culprit. First inspect the card to be sure it is fully seated in its slot if it is adapter slot mounted.

Check the jumpers of any motherboard mounted card to be sure a jumper has not been lost or loose. If you have been inside your system, its always a possibility to have moved the card.

Monitor Works But Poor Display

If your monitor works but the images appear fuzzy, or flickering often, and the text are hard to read, it may be time to adjust the video card's resolution and the refresh rate.

Right click the desktop, select properties and open the display properties dialog box. Choose the tab for settings and adjust the slider to change your display resolution. Most 17-inch monitors will have a resolution of 800 x 600 but choose the best resolution for your eyes.

After adjusting the resolution, check the display to see if all flickering and other problems have vanished.

If not, optimize the refresh rate. The refresh rate is the rate in which the video card redraws the screen. Lower refresh rates sometimes cause flickering.

To adjust this rate, open the display properties dialog box in the desktop, and choose the settings tab once again. Click the advanced button and choose the adapter tab if you still have Windows 98.

If you have Windows XP, choose the Monitor tab. And from there you can set the refresh rate to about 70Hz or 70 Hertz. Check your monitor's manual or web site to see the maximum refresh rate for your monitor.

To effectively maintain your video display, visit the supporting web sites for updated software patches and device drivers. Watch for new control software for your card that will greatly boost its performance.

Take the time to clean the system unit case which will allow air to flow freely. This in turn will help keep the video components cool which will allow the card to perform smoothly.

Easily Installing Your New Hard Drive



Check your documentation to be sure that the new hard drive you buy is compatible with your system. If you don't have the documentation, you can run the system info Utility. Here you will be able to see what type of hard drive you have.

Your PC's system setup program will do the same. Write this info down and take it with you when you go to purchase your new drive. The hard drive's Access Time is another consideration you should check into.

The [Access Time](#) is the normal time it takes for the information requested from the disk to arrive to the memory of the PC. The larger this time is, the slower the hard drive will be. Hard disk drives can be either internal, (inside the system unit) or external, (outside in its own case) and they can be removable in some cases. When installing a hard drive, there is a slight difference, depending on the type of drive you own.

The following steps to installing a hard drive may vary slightly. Be sure to check the installation procedures that came with your new drive to check for any differences in installation. If you purchased or was given a hard drive from a friend and don't have any paper work for the drive, the following steps should suffice in installing and configuring your new drive.

To install the original drive or to install a new hard drive, following these steps and take extra care in getting rid of any static electrical buildup that your body may have accumulated. Take your time. It would be to your advantage to invest in a PC Repair Tool Kit if you plan on working inside computers as a hobby or to earn extra income.



Before you remove the system unit cover to gain access to your hard drive, remember to remove any and all ESD (Electrical Static Discharge) from your body. This is done by touching an object such as a doorknob or the case of the system unit. After this safety precaution is done, remove the system unit cover and locate the drive.

Depending on the location of old your Hard Drive, you may have to remove other components just to have access to it. If so, take very good notes of everything you disconnect or remove, you can refer to them later as you replace the components. Look to be sure you have [empty drive bays](#) to install extra drives should you decide to add a second drive.

Once the drive is clear of other cables and components, carefully remove the power and [data cable](#) from the drive and remove the drive retaining screws. Some drives are mounted [on rails](#), if this is the case, just slide the unit out through the front or top of the system unit chassis.

Separate the drive from the rail and now install the new drive to the rail. Watch those screws, they are small and can be easily lost. Remember to ground yourself from time to time to remove electrical static buildup.

When the drive is mounted on the rail, (if you have one) write down any information on the front of the drive that may give you the type, model number, sectors, cylinders, access time and other information that seem important. You may need it when you configure the hard drive. Nearly all new hard drives [have software](#) that does this for you.



Now connect the power supply cable to the power connect and the [ribbon cable](#) to the drive's controller, SCSI adapter, or to the motherboard. IDE drive's have their controllers mounted on the drive, so the ribbon cable is hooked from the controller to the motherboard or [Expansion Slot](#).

If you are installing a SCSI drive, you need to terminate the chain by connecting the terminator at the end of the daisy chain, or by switching the DIP switches on the drive's board.

When installing an external drive, you need to install the SCSI adapter into an empty expansion slot on the motherboard. Be sure to use the card's DIP switches or jumpers to give the card a SCSI address. Check the drive's manual or documentation for this information.

After being [certain that all cables, connections](#) and all other components are in place, replace the system unit cover, reconnect all peripherals to the system unit and plug it into the wall outlet.

Turn on the computer. Now you will need to tell the computer that it has a new or different hard drive. You will have to start your PC with a [bootable floppy disk](#) if you replaced or installed a new hard drive.

The new SATA Hard Drives now come formatted and if not, you can simply use your Operating System CD to format the drive and go right into installing the Operating System. The Boot Floppy can still be used on older Computers.

Remember, if you're working on an old computer and don't have a bootable floppy, you may have to find a computer with a floppy drive and perform the following....

Create a bootable floppy disk by formatting a blank diskette with the command of `FORMAT A:/S`. Then edit the `Autoexec.Bat` and `Config. Sys` files and change all files where you see something like `C:\DOS\ANSI.SYS` to `A:\DOS\ANSI.SYS` and change only the `C:` after the `=` sign. After editing all files, save all changes and copy both the `Autoexec.bat` and `Config.Sys` files to the diskette.

It would be good to copy some of the helpful Dos utilities such as `Scandisk.exe` and `FDISK. exe` to your bootable diskette. Once you have started your computer with the bootable diskette, enter the setup by pressing `CRTL-ALT-S`, `CRTL-ALT-INS`, or whatever combination of keys will access of your computer's setup program.

Then enter the new drive's type, cylinder and any other very information it needs to complete the setup. Then be sure to save the new information in the setup. There are many older computers out there that you'll need the boot floppy.

If your new drive came with a owner's manual, keep it handy for future reference and you may need it to config your drive. Even though you have installed the drive with its cable, the computer doesn't know that you have done this. So we must tell the PC and while we are at it, we must make the drive useable by partitioning and formatting it.

If your new drive is an old [IDE](#) or the new SATAhard drive, device drivers are normally not needed, and you may have to use the CMOS Setup to tell the computer that the drive is there. For the SCSI drive, the disk controller takes care of talking with the computer.

Repairing The Hard Drive, Hardware And Software

Since computer users are human, the user can be the primary cause of computer failure. And we operators of our computers are in most cases but that, we operate the computer but know very little concerning software and hardware components and peripherals.

Since this is the case, you should **ASSUME NOTHING** when diagnosing any computer problem. We diagnosed a new PC with a video display problem. After briefly looking at the video card it took a while to see that the video card was not pushed into the adapter slot completely.

Even though I looked at the card, I failed to check it thoroughly. This cause me to spend more time on troubleshooting that was not needed. The thought of a hard drive failure strikes terror in the heart of every computer user. This is because a hard drive failure may lead to invaluable data loss. Here are the most common procedures you should perform when you experience hard drive failure.

General Hard Drive Troubleshooting

The hard drive can display problems such as "retry, abort, ignore" or "cannot read sectors" while operating. This is an indication that there may be bad or unreadable spots on the drive.

Reformatting and reinstalling the operating system can normally correct this problem. This will cause you to loose all data on your drive so it is important to always have a good backup of your files daily.

If the hard drive seems to be causing you problems, such as constant error messages. [Watch this video](#) and, [watch this video](#) for a possible cause if your hard drive

is showing errors and is slow.

There are good good utilities you can purchase that can repair hard drive problems without destroying data. The utility Spinrite is a good utility and only cost \$100.00 which is a good price if you want to avoid the hassle of reformatting the drive and restoring the operating system. Here are some general hard drive problems you should start from and we'll be more specific later.

Use Operating System Utilities

First you may be able to correct those bad spots and errors from your hard drive by performing those PC [maintenance](#) in the operating system. Windows has [Disk Defragment](#) and you should run disk defragment after running [Scandisk](#) since scandisk will need to fix any problems it finds. After scanning the drive and defragging the files, run Disk Cleanup to ensure all junk files have been delete.

Check Drive Cables and Connections

If there is on indication that the drive is receiving power (you don't hear that familiar clicking noise or the drive light is no working) check the 4 wire connector coming from the power supply. [Watch this video](#) to understand and see the cables and some problems that [the connectors](#) can cause.

If the connection is secure, you can remove the power supply connector and do two things. You can check to see if there is voltage with a multimeter. But its much faster to connect another 4 wire connector to the drive to see if the drive works.

There are normally extra connectors from the power supply or you can use the connection to the cdrom drive to test for voltage from the power supply.

If the connection indicates no or very little voltage (4 volts or less) from the power supply, the power supply may be going bad. Now check and double [check all connections](#), especially if you are someone else have recently worked inside the computer.

If the Drive Will Not Boot Up?

Boot the computer with your bootable DOS disk. If you don't have one made, **STOP and make one NOW** by clicking on Start, Settings, Control Panel, Add and Remove Programs and Startup Disk.

Try to access drive C: by typing DIR C: and press Enter. If you see the directories on drive C: try to make the drive bootable by typing sys a: c: and press Enter. The system files should be restored and the drive may be restored to boot on its own.

If this fails, you may have to reformat and partition the drive with the setup utility that came with your drive or computer.

If the Drive Boots but Hangs Up at Boot?

Turn the computer off, open the system unit and disconnect the ribbon cable at the motherboard end. Turn on the PC AND You will get an error message that the drive is bad and in most cases will go into your BIOS.

Change the hard drive type to AUTO and shut off the computer. Reconnect the ribbon cable and see if the hard works properly. The drive settings should be restored and should operate fine.

A hard drive that fails to boot up may also have a bad controller. If the controller is

mounted on the hard drive, there is not much you can do except replace the drive.

In our next issue we will cover problems with the CMOS Settings, the IRQ Settings, using Fdisk, the cmos Battery, and more.

Hard Drive Software Troubleshooting

Hard Drive Software Problems and Solutions

If the drive [CMOS settings](#) are not correct, the drive will not boot up. Find the [key combinations](#) to access your BIOS and check the settings to see if the drive has been recognized. Select "Auto" from the main BIOS screen and after rebooting, the drive should be detected automatically. Be sure to save the changes and then reboot the computer to see if the drive works.

Computer Boots but with Many Errors or Hangs

The LBA or Logid Block Addressing settings may be set wrong when your computer have many errors, and if your computer is an older model. LBA is a method used by older PCs to support IDE hard disks larger than 504 megabytes.

Access your BIOS and check the LBA settings. If the LBA settings are not enabled, enter the BIOS and enable your LBA.

Your Hard Drive may have an IRQ Conflict

The primary hard drive controller normally uses the IRQ or Interrupt [Request Line of number 14](#) and if you have a second drive, it may use number 15. You may install a new device such as a modem that uses IRQ 14 by default and once installed, the may not recognize the hard drive.

The solution here would be to change the IRQ setting of the new device you installed to another IRQ. Check the manual that came with the new device for possible IRQ settings.

Your Hard Drive Device Drivers Causing Problems

In Windows XP, Vista, and 7, you can view the device drivers in the Control Panel and update them if needed. If you are not sure you have the latest device drivers, perform these steps to update, especially if you operating system is Windows 7.

Click on Start, Control Panel, System, and the System Properties will appear. Then click on Hardware, and Device Manager. Click on Disk Drives and then your Hard Drive. Click on Driver and here you can Update the Device Driver. You also have the option of Rolling back to the old driver should something go wrong.

What To Do When Windows Won't Boot



When Windows fails to boot it is normally caused by you installing a program or device and it has caused a conflict with one or more other programs. This will no doubt give you plenty of heartache if you're not certain which program caused Windows to not boot up.

If you recently installed a program or application and know where it was installed, you may be in much better shape as far as correcting the error. Here are common ways to correct the problem of your computer not completely booting up or not booting up at all.

If your computer will not boot-up at all, hopefully you have made a good emergency boot disk. You can always make a windows startup disk by creating one from another computer running Windows 98 or Me. Perform the following if your computer.....

Won't Boot-Up At All

FIRST: Put your boot floppy disk in the floppy drive and turn on the PC. On some computers, you may have to access the bios and select the Boot priority to your A: drive. Save any changes and select "Start Computer without CDROM support" and press Enter. Once you are at the A> prompt, type dir c: and press enter.

If your programs and other files are present, try restoring your system Registry by following the steps below. This may repair Windows, the Config.Sys and autoexec.bat files to where the PC may boot up normally. When the files are present, it's a good indication of a good hard drive.

SECOND: To correct the problem of your computer not booting up, type in "fdisk /mbr" and press Enter to restore your master boot record. Type "Scandisk C:" to check the hard drive for errors that have occurred. You can also type "Sys C:" to hopefully restore files needed to boot up your computer.

THIRD: If the above procedures fail to repair your computer, you can repeat the first part of step one above and select "Start Computer With CDROM Support" re-install Windows.

Making a Windows XP Bootable Floppy, if You Still Have a Floppy Drive

Windows XP users should create a boot disk now by placing a formatted blank diskette in the A: drive, open Windows Explorer to the C:, select Tools, Folder Options, show Hidden files and folders, then View Tab.

Now you uncheck "Hide Protected Operating System Files (recommended). You will see a warning and click Yes and click OK.

Copy the files ntldr, ntdetect.com and boot.ini onto the disk. Remove the disk and label it the Windows XP Boot Disk.

After making your boot disk, recheck "Hide protected operating system files and folders (recommended)" in the Folder Options dialog box.

To use the disk when Windows XP won't boot, place the disk in the drive, and upon re-booting, the computer, Windows simply bypass the basic boot files on the hard drive and continue to boot up.

If The PC Won't Boot Past Windows

FIRST: If your Operating System is Windows Millennium, turn on the computer and immediately press and hold down the CTRL key. Once the startup options appear, release the CTRL key. Select Safe Mode and press Enter. You are now in Windows limited version. If you know what caused your computer not to boot, you can now either change or delete that program.

SECOND: Repair your Registry by selecting Start, Run and typing "scanregw/fix" and press enter. This will fix any damage done to the Registry. You can also restore your registry which replaces your current registry with an earlier copy that was backed up by your computer. Click on Start, Run and type "scanregw/restore" and press Enter.

To repair your Windows 98 Registry, hold down the CTRL key as you start the PC and select "Command Prompt Only". Type "scanreg/fix" and press Enter and "scanreg/restore" to restore a previously saved copy of the Registry.

If you have Windows XP, press F8 after rebooting the PC should Windows freeze while booting up. You can select "Last Known Good Configuration" after rebooting to allow the computer to boot the last backed up files. And you can choose "Safe Mode" to remove any files you know caused the operating system to hang up.

Be prepared when your operating fails to boot. It would be a great idea to go over this article a few times and print it. Make yourself s notebook and place this and all related articles there.

If your computer fails to boot or begins to become unstable,you can refer to these articles to make corrections that are needed. Learn these steps from your television set with the PC Super Pack.

Be sure to note any changes you make to your Registry and if you're not sure,its best to find a friend that's pc savvy first. Above all,be certain you back up your registry before making any changes and know how to restore as well.

Here's How To Replace A DVD Drive In Your Laptop

Replacing a DVD drive in a laptop is very simple. Even if you don't have a lot of technical expertise this is something that you can do. There are no screws involved or opening up of the computer case. This is because most laptops all use modular drives that pop right out.

A DVD burner is the drive that allows you to write data or video/audio files on a DVD disk. The amount of information that can be written to a DVD is typically 4.7 GB. However, double-layer DVD burners can write up to 8.5 GB of data on a disk. Devices with a LightScribe-enabled optical drive allow you to burn DVD labels as well.

An installation of a new DVD burner on your laptop may be required due to the failure of the original hardware or as an upgrade from a CD/DVD-ROM (read only) drive. Get a replacement from the manufacturer.

Laptops don't have big open cases that will fit any DVD drive you buy. The cases for the drive are somewhat proprietary to the manufacturer of the laptop. Call your manufacturer and give them your exact model and serial number to order the right sized DVD drive.

Shutdown the laptop and make sure it is completely powered off.

Disconnect the plug from the battery and set the laptop on a flat dry surface. Turn the laptop over. You should remove the battery to prevent any chance of the laptop turning on.

You may have to check your manual but most laptops have a button to push or slide to release the drive. Push the drive straight out and remove it from the laptop. Insert the new drive in the reverse way you pulled out the old drive.

Insert an edge of a paper clip into the emergency eject hole of the DVD drive to open it. Gently pull out the disk tray. Locate two screws (one on some laptop models) on the back laptop panel that secure the DVD drive. You may need to consult your laptop manual for

the information specific to your laptop.

Unscrew the screws and carefully pull the DVD drive out of the laptop. Insert the DVD burner on the place of the old drive and slide it all the way down.

Complete the hardware installation by securing the DVD burner with the screws you removed earlier.

Turn the laptop right side up and turn the power on. The DVD drive will basically be automatically found and work either fully or with basic functionality. Install any drivers by inserting the CD that came with the drive or by downloading them from the website. Installing the driver may add advanced functionality that the older drive did not have.

And that's it to replacing the DVD Burner in any Laptop.

**Don't Cough Up \$300 - \$500 To The
PC Tech To Fix Your Computer
Get Your 12 Cdrom And 6 Dvd Set
Rushed To Your Door And Fix Your
Computer Yourself. Your Low
\$65.95 Investment Is Guaranteed
CLICK ME PLEASE TO GET YOUR PC SUPER PACK
6 " Want To Learn PC And Laptop repair Now"
If You're Sick And Tired Of The Lockups, Bootup
Failures, Upgrade Problems, Those Slowdowns,
Drive Failures, Memory Low, Video Problems...?
Don't Put Up With Potential PC Failure When You**

**Can Start Viewing In Depth, Step By Step,
Detailed, Powerful Videos On DVDS And CDROMS
That Teach You PC Repair Starting... Right Now...!!!
*Click The Book Cover Above To Learn more***

How To Repair Cable, DSL, And Dial-Up Modem Problems



When it comes to [diagnosing the modem](#) and any other computer problem, always start with the most obvious first. Modem problems may be repaired as fast as re-booting the computer or can be as complex as resolving hardware conflicts.

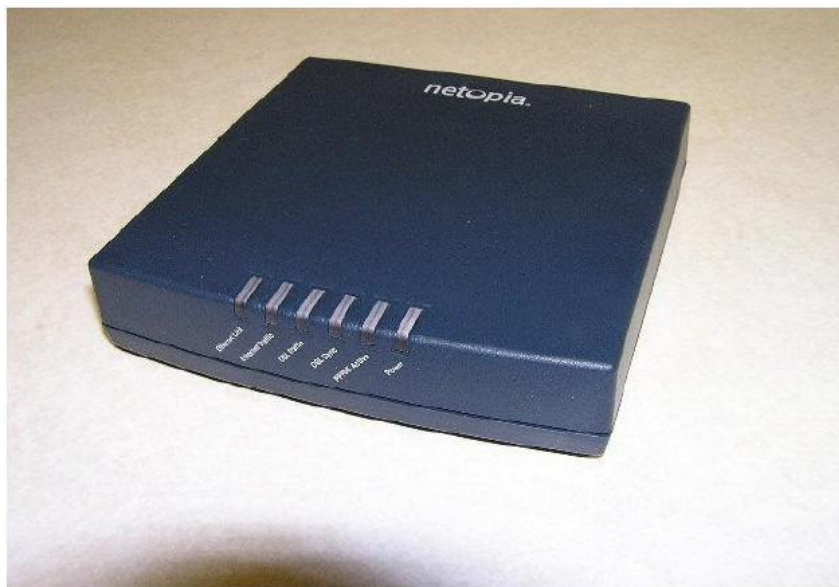
First remember to check for the most obvious signs of trouble, such as loose connections at the rear of the computer for external modems.

Internal modems may have their retaining screw at the expansion slot loose or missing. Phone line connections may simply be inserted in the wrong connector. Nearly all internal modems are inserted into the PCI or Peripheral Component Interconnect slot in the system unit.

How To Setup Cable Modem With A Router

[Get Additional Help From Here With Setting Up A Cable Modem](#)

A Direct Subscriber Line (DSL) Modem



No Power At the Modem

For Internal Modems, first try inserting the modem in a [different PCI Slot](#). Reboot the computer and click on Start, Control Panel, and click the Phone And Modems icon.

Then click on modems, properties, and look for the statement "This Device Is Working Properly". You can click on Diagnostics and run a test to see if the modem has power as well.

External modems can be checked for power by [inspecting the adapter plug](#) to see if it is plugged in completely. Look to see if any indicator lights are flashing and be certain you are [using the adapter](#) for your modem.

Be sure [the surge protector or wall outlet](#) is providing power by plugging in a lamp or a radio. If the radio works, the culprit may be the adapter or the external modem itself.

If you purchased the modem in your town, you may have the chance to return it to the store and ask the technician to test it with a known good power adapter. You can then replace either the adapter or modem.

Modem Disconnects Often

If your modem, whether [internal](#) or [external](#), is working but disconnects from the Internet often, without warning, check to be sure your call waiting option is not enabled.

Another culprit that causes this headache is line noise. This noise and interference can be caused by such things as loose wiring. Poor waterproofing, old wiring, worn phone jacks are other causes of line noise. Make sure no other equipment is using the same line that your modem is on.

Be sure other devices as your fax machine, answering machines or even security alarms are not sharing the same line as your modem.

Other PCI devices may be causing conflicts with your modem. Clicking the Control Panel, and clicking the modem icon will show the message "This Device Has A Problem" or something similar if there is a conflict.

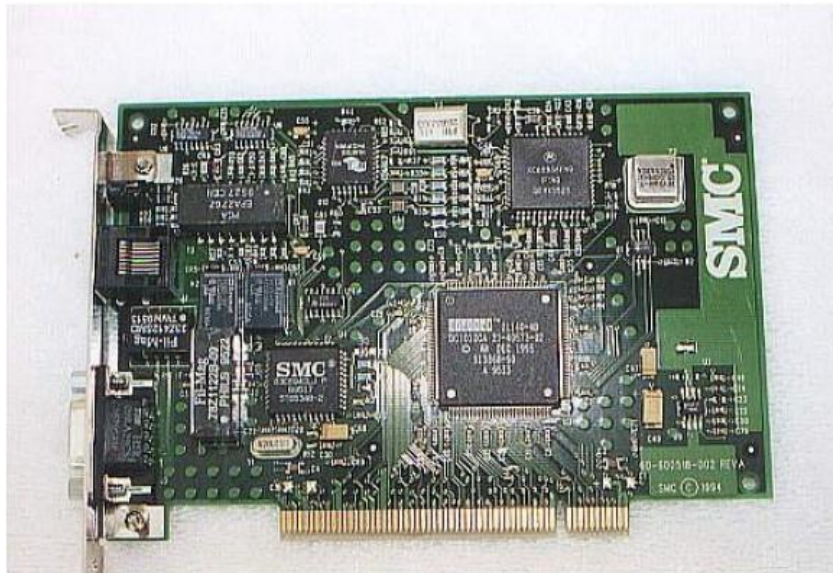
Windows will offer ways to resolve the conflict. Take the time to carefully follow instructions to correct any conflicts that may be present.

[Loose Data Lines](#) for Internal modems and loose or [damaged connectors](#) for External modems can cause data loss as well. Visual check and double check these connections.

Troubleshooting DSL Modems-Internet Access Needed

[Get More Information About Troubleshooting DSL Modems Here](#)

An Older Dial-Up Modem



Modem is Present But Will Not Work

The external and internal modem must have device drivers installed before they will work. Bad or incorrect drivers can cause the modem to disconnect as well as not work at all.

If you noticed that the device driver was either missing or corrupt in the modem icon, follow the instructions to update the device driver. In some cases, you may have to completely remove the old modem from the Windows Device Manager.

Once it has been removed from Windows, reboot the computer and Windows will detect the modem and automatically re-install the device driver. If your modem came with an installation cdrom or diskette, use the software on the disk rather than the one in Windows.

Once you are up and running, the first thing you should do is to visit the modem's support web site and search for any software patches or updated drivers to download.

Common Broadband Problems

The most common high speed internet problems whether its dsl or cable connections are not being able to log on and poor signal.

If the Cable modem often reboots,you should check to see if [your signal indicator is strong](#). If the signal seems good,electronic signal from mobile phones and other devices nearby may be interfering with the signal.

Stop and look behind the cable or dsl modem to see if the connections [have worked themselves loose](#) or have come off completely. Be sure the connections have not be damaged in any way.

The modem is connected to an Ethernet card which will receive and send signals to the computer. Look at the rear of the card and see if [the green indicator](#) is on. If not, there is a problem with the card installation or the card may be faulty.

If [the ethernet card in the computer](#) become loose, your high speed Internet reception will be interrupted. Place a finger on the ethernet card and try to move it. If you can, open the system unit case and tighten the card.

If the ethernet card has become loose,it may be a good idea to remove it and [inspect the yellow contacts](#) to be certain they are not dirty or damaged. Power will not transfer to the card should this be the case.

Other causes may be the main wiring to the modem may be faulty. The vacuum cleaner or the power tools your son is using in the garage may be causing the problem as well. And we cannot omit the idea that the cable or dsl modem themselves may be faulty.

While you're learning about your computer,understand the modem at every level and do so now while it is still in good operating order. Print or write down modem and all troubleshooting tips.

Put these troubleshooting tips in a binder or at least in a safe place so you can refer to them should your PC fail to boot. Knowing about your computer takes time and effort but you be glad you took the time should your system goes on the blink.



Tips On Surviving An Operating System Crash



Once in a while it happens to every one of us, an Operating System crash of your computer. Then you have to reformat your hard drive, reinstall the operating system. You cannot prevent the loss of time you suffer while working to get everything in order again.

There are some very easy things you can do right now to make ensure your peace of mind for your business. You need to be back up and running as quickly as possible in the event of an operating system crash.

When you buy your computer, be sure to ask the dealer for a diskette or CD-ROM with the drivers for every hardware component that is not standard in the operating system. ('Drivers' are those pieces of software that the operating system needs for handling a hardware component.) Usually such a diskette or CD-ROM has an "autorun" program stored: You just need to insert it in the diskette/CD-ROM drive – and the driver installs it.

Document everything including usernames, passwords, merchant account numbers, important websites and especially software unlock codes. Anything that is not written down on paper is subject to be lost.

Back up your hard drive as necessary for how often you have new updates that you cannot afford to lose or rebuild.

Important! If you have to completely reinstall your operating system, the "My Documents" folder is usually lost. Make sure you don't forget this folder when you do the back up.

So Just What is a Hard Drive Crash?

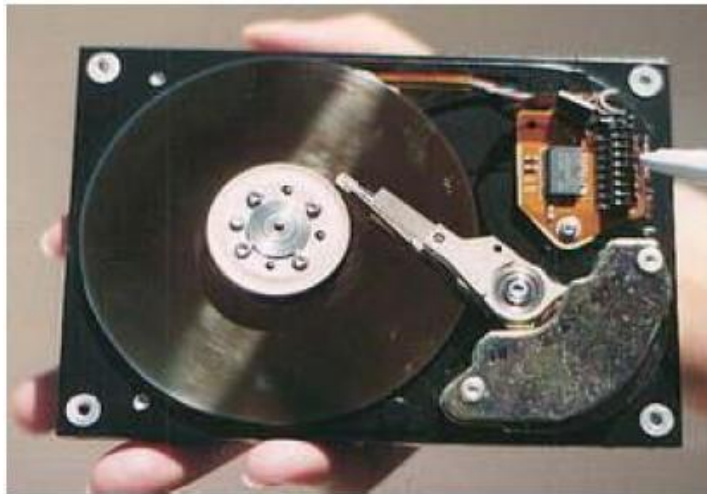
The Hard Drive stores data but when it gets near its capacity, it slows down. One of the best ways to improve hard drive and computer performance is to keep files you don't use off your hard drive. And run DEFRAG when needed and run SCANDISK at least once a month.

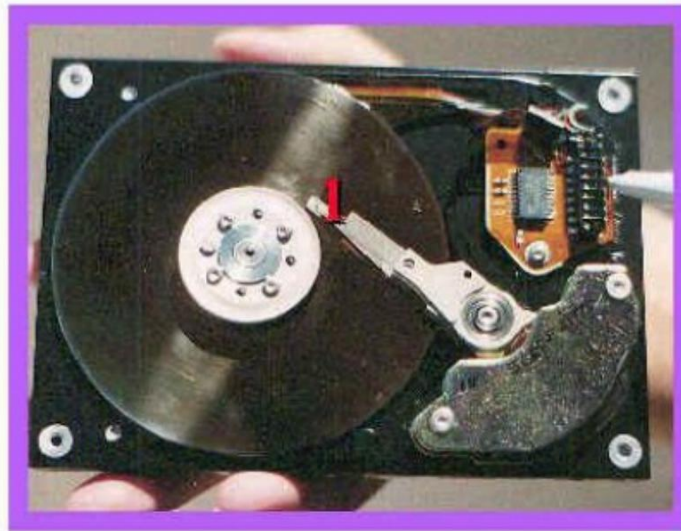


[More Important Information On Hard Drive Crashes Here](#)

Make sure all of your .exe, zip and software install files are on a disk. This is easily done by backing them up or burning them onto a CD. You should already have the system restoration and any other store-bought software disks handy.

The actual repair or reinstall of your operating system may simple or it may be complicated. If you are well versed in this area, you may be able to restore the system yourself. If you're like most of us, you may have to call a computer repair professional.





THE READ/WRITE HEADS (1) ARE LOCATED AT THE END OF THE ACTUATOR ARM. THESE HEADS DON,T ACTUALLY TOUCH THE SURFACE OF THE PLATTERS, THEY RIDE ON A CUSHION OF AIR THE DRIVE IS TIGHTLY SEALED, KEEPING ALL DIRT AND DUST AWAY ALL THESE COMPONENTS



When your p.c. is restored, you will be able to simply reinstall your software and documents files from the disks you created. If you have access to a secondary p.c., you can install your programs on the backup computer in the interim.

A "daily backup" is extremely important to everyone who is working on any "project" that is more extensive than one day. It is important because only with that "security net" can you work freely.

Here's How You Can Recover From a Hard Drive Crash

[Watch This Video Further Explaining The Process](#)

In addition to 'daily backup', I prefer to do a 'weekly backup' every weekend. You should use one directory on your portable computer for "long-term backup". Particularly if you often download a software and don't have any physical representative of it.

Re-arrange the directory structure on your desktop computer , creating one primary root directory, with a sub- directory for every application you use to work with. The sub-directories under the root "Own" are only to take the data files associated with Winword, Eudora or any other programs that create output.

Whenever you create or modify a file (whatever the file type), be sure to write/update the current date in a comment line near the top.

Finally, let's not forget that, especially in computing there is hardly anything bad that wouldn't have any positive side effect. Over time a lot of the "scrap" will assemble on your hard drive. Nowadays that's not much of a problem, just some wasted storage space. But remember the performance is diminished when the operating system has to struggle with a lot of complicated entanglements.



Following These Steps To Recover Your Hard Drive

First, turn off the computer. If the computer continues to restart after the Windows logo appears without giving a chance to access the desktop and a blue screen flashes for a split second, it is most likely a registry problem, virus or hard drive fail.

The impending loss of important documents and files is a sickening feeling, but there is a way to recover them before reformatting the computer. For an affordable price, external hard drive cases can be bought at any retail outlet specializing in computers. After the case is purchased, carefully remove the hard drive from the computer by detaching the connected wires, plug the hard drive into the case and it will act as an external USB drive.

Once this is completed, attach it to another computer and hopefully it will show up as another drive. If this works, simply drag and drop the important files onto the computer and back them up onto a USB stick or DVD disc. If this doesn't work, the hard drive has either failed or it's not connected properly.

Now that the files are safe, it is time to reboot the computer. Ideally, when a computer is purchased, the user will make a back up disc of the operating system in case of a meltdown. If you don't have the disc, contact the company that makes the computer and perhaps they will supply one.

[A LAPTOP DRIVE DRIVE BELOW. LEARN ABOUT IT HERE](#)

