

REPAIRING HARD DRIVE HARDWARE AND SOFTWARE PROBLEMS

HARD DRIVE HARDWARE TROUBLESHOOTING

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 defragmenting the files, run Disk Cleanup to ensure all junk files have been deleted.

Check Drive cables and connections

If there is an indication that the drive is receiving power (you don't hear that familiar clicking noise or the drive light is not 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 it's 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 CD-ROM 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 has 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.

ULTIMATE LAPTOP TROUBLESHOOTING GUIDE

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

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.



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

Device Drivers loaded in Windows causing problems

We have seen this first hand with Windows 95 and 98 loading into memory device drivers that should have been deleted. Take the time to check the device drivers being loaded in memory. You can press F8 as the PC boots and select "step by step confirmation" to see most device drivers as they are being loaded

Another way to view these drivers is to type "[Edit c:\autoexec.bat or Edit Config.sys](#)" from the C:\ prompt. An editor will open the Autoexec.bat and Config.Sys files on Windows 95 and 98. Here you can check to see if there are device drivers being loaded that you deleted earlier.

Study,learn,and study some more to learn about not only your hard drive but every component, install, optimize, upgrade and troubleshooting procedure there is concerning your computer system. It will be both fun and rewarding to boost your knowledge of the hard drive and save lots of money in the long run.

HARD DRIVE TROUBLESHOOTING CHART