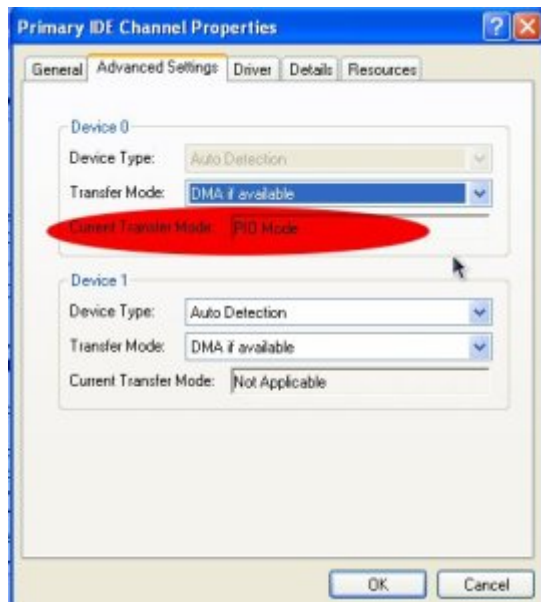


Dramatically restoring the performance of an exceedingly slow Windows XP machine



Last night a young lady asked me to look at her Windows XP laptop. It was running much slower than it did when she first got it. Usually, I first consider that the system is probably infected with malware or spyware, and I installed and ran [SuperAntiSpyware](#) to scan the C drive of her PC. But later I realized that she, being the type of girl she is, would not be going to dangerous websites from where she would be infected. SuperAntiSpyware reported no malware present. I then remembered that the primary IDE channel of a Windows XP system sometimes reverts from DMA to PIO. The graphic on the right shows what the current transfer mode should **not** be!

IDE stands for Integrated Drive Electronics. It refers to the electronics of either your hard disk or DVD drive. In this case, the hard disk is in question.

DMA stands for Direct Memory Access, a technique for transferring data from the main memory to a device (like your hard disk) without passing it through the CPU (central processing unit, the computer's brain).

PIO stands for Programmed Input/Output, a method of transferring data between two devices that *uses* the computer's CPU.

PIO is the older and slower method of data transfer. DMA is at least 10 times faster than PIO from my personal observation. This means that if the IDE primary channel is set for PIO, this will slow down the read and write speed of your hard disk by at least 10 times which dramatically slows down the entire system! Windows XP will automatically revert from DMA to PIO if there are too many DMA errors. In such a case, it may be a sign your hard disk is beginning to fail.

You can check if the transfer mode of your hard disk is DMA or not with the procedure below.

1. Click Start
2. Click Control Panel
3. Click Switch to Classic View (if you are not there already)
4. Double-click the System applet to open it.
5. Click on the Hardware tab to open it
6. Click on Device Manager to open it
7. Click on the plus sign of IDE ATA/ATAPI controllers to expand it
8. Right click on Primary IDE Channel
9. Left click on Properties
10. Click on the Advanced Settings tab
11. Look at the current transfer mode of Device 0. It should say Ultra DMA Mode with a number after it as shown in the picture. If it says PIO Mode, this is the reason for your slow PC.



Ultra DMA mode

If you see that the current transfer mode of the primary IDE channel on your PC is PIO, you may be able to reset it back to ultra DMA mode by [downloading and running this script](#). Just right click the and left click "save link as" to save the file. Windows may save it as a text file by adding a .txt after the real extension of .vbs. If so, you would need to rename the file before you can run it by deleting the .txt, and to do that you may have to change the Windows default setting to show registered file extensions.

After you run the script, reboot and check the primary IDE channel settings again. If it is restored back to ultra DMA mode, congratulations! If not, the only fix would be to change the hard disk altogether to a new one or buy a new PC.