

## **There is a Serial ATA Drive in Your Future**

By Bart Koslow (3/4/2004)

Serial ATA (SATA) drives are here. I installed one on the new computer I just built, and it is fast. The current IDE (Ultra ATA) drives transfer data at speeds up to 133 MBps. Unless you are running a Maxtor Ultra ATA drive the speed is a maximum of 100 MBps. The new SATA drives transfer data at 150 MBps -- not only faster but more efficiently. In the future SATA will be ramped up to 300 MBps and more. Do we need faster drives? The slowest link in your computer is the hard drive which runs in milliseconds. The CPU and memory run in nanoseconds. Programs load more quickly with SATA. When Windows uses the virtual memory cache it is faster.

Instead of the 40 or 80 pin wide flat cables used with current drives, SATA uses a small round cable which will not interfere with air circulation in your computer case. SATA drives may be added or removed when your computer is running. There is no master or slave jumper to set. Just plug in the cable. What do you require to add a SATA drive? You need either a motherboard that supports SATA or an SATA controller card. You also need new SATA cables. Current power connectors provide +12 and +5V signals. Some SATA drives use different power connectors that supply an additional +3.3 volts, so you may not be able to use the current 4 pin power connectors. If this is the case, you may need a new power supply or an adapter.

My new Asus A7V600 motherboard supports SATA. I used an existing ATX case I had. I did not find I required a special power connector for my Maxtor SATA 160GB drive. However, There was a problem when I tried to install Windows XP Home on the SATA drive. The software would not recognize there was a hard drive. Upon visiting the Asus homepage, I found a solution. I was instructed to copy certain driver files from the Asus motherboard driver disk to a floppy. When installing Windows XP you are asked whether you wish to install any RAID or other third party drivers. I pressed F6 to signify assent. One step later I was prompted to use the manufacturer's disk, which I inserted in my floppy drive. Voila! The drivers were installed and I was on my way.

I have two bootable drives in the new computer -- the new SATA drive and an older IDE (Ultra ATA) drive with Windows 98 on it. The motherboard BIOS did not recognize the SATA drive until the drivers were installed. Even then I had a problem as to how to make the SATA drive the boot drive instead of the IDE drive? I finally realized that the BIOS used the terms SCSI, and RAID drives instead of SATA. Then I found the boot solution in the Boot Section. The BIOS treats an SATA drive in a manner similar to a SCSI drive. It does not show it in the devices screen. It does show IDE drives.

Was it worth the trouble? Absolutely! The drive is fast. I am looking forward to the 300 MBps SATA drives, and beyond.