

## Improve Computer Performance

### Parts Required:

- A Hard Drive ATA-100 or ATA-133, 7200rpm (prefer 20GB or more)
- IFC-1: Internal FireWire Converter
- 1394PCI Host adapter (Texas Instrument chipset preferred), if computer does not have FireWire bus.

### Why

For the most part, when running an application, the computer will generate temporary files, files with tmp or temp extension, in the HDD, which is saved per Window default setting.

`C:\Document\Local setting\...`

Which means read and write operations are required on IDE bus. This is truly a disastrous scenario for IDE bus, because IDE bus cannot handle multi-operations very well. When a situation like this happens, the data transfer rate in IDE bus would drop like a rock.

This is why high-performance systems or servers are based on SCSI HDD instead of IDE HDD.

Perhaps you may think adding another drive in IDE bus (secondary) instead of FireWire drive should help. However, this will not work because the problem is not the IDE HDD but the IDE bus itself.

### What

With the NEW internal FireWire, whenever an application runs, the computer can perform both read/write operations at the same time, instead of waiting for the C:\ drive to deliver data (read), confirm the operation and then write the temporary data (TMP or TEMP extension file) to the C drive.

Now, the computer can read data from the HDD send it to the CPU memory and at the same time the temporary data can be written into the Internal FireWire HDD. With no waiting time, the computer would load / run at least 15% faster.

Tip: The trick is to have two HDDs in two different buses run simultaneously so there is no waiting for write or read performance

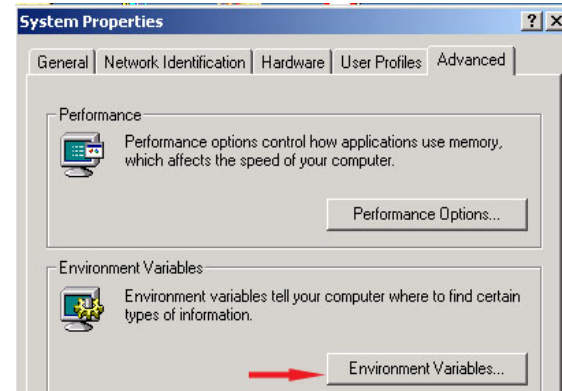
Not convinced? Here is some **food for thought...**

Lets assume IDE ATA-100 or ATA-133 is extremely good and extremely fast, why then do all the ITs, who build servers or high performance systems spend thousand of dollars with SCSI HDD or even Fiber channel? Why don't they use IDE HDD to save money?!

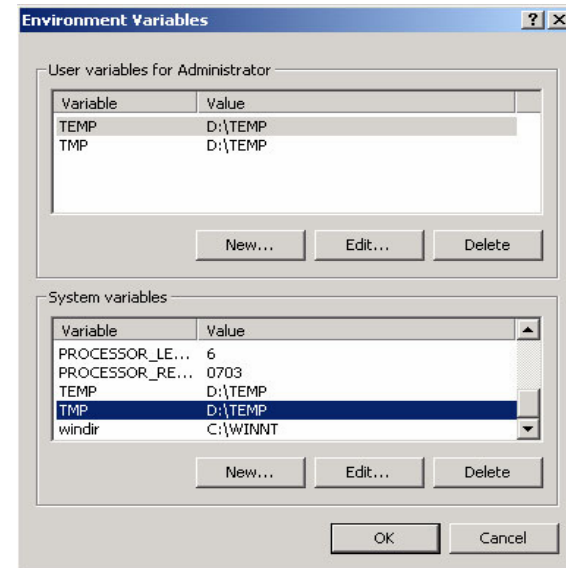
### How:

1. Install FireWire PCI host adapter, if the computer does not have a FireWire bus (see 1394PCI manual). Refer a 1394a-2000 compliant PCI host adapter
2. Convert ATA-100/133 HDD into Internal FireWire HDD with Internal FireWire converter [www.caloptic.com](http://www.caloptic.com) (see IFC manual).
3. Connect and format Internal FireWire HDD (refer to Window manual for "How To").
4. Create a TEMP folder in Internal FireWire HDD.
5. Change TMP and TEMP Environmental Variable setting.

- a) Start → Setting → Control Panel → System → Advanced Tab.



- b) Double click on **Environmental Variables** Button (red arrow).
- c) Edit the **Value of User Variables** and **Value of System Variables** of TEMP and TMP to:



**X:\TEMP**

where x: is the Internal FireWire HDD  
where TEMP is the folder created in step 4

Example: If the internal HDD is H: drive, then use: H:\TEMP.

**Make sure the TEMP Folder referred to exist!**

6. Reset computer and enjoy!

### Where

7. Go to: <http://www.caloptic.com>