Upgrading Your Macintosh

espite what many people think, the Macintosh really is quite an upgradeable platform. The reason it doesn't have an abundance of PCI slots or other expansion mechanisms is because a Mac comes ready to use immediately, with everything built in to the computer as one component called the motherboard. But there will be a time when you feel that your Macintosh is not up to par. You may be the victim of many mockings by your G3 Power Mac wielding friends. However, it is often times more economically sound to bring your old Mac up to date rather than buy a completely new system, and the results can be just as impressive, if not more.

Memory (RAM)

If there is one bit of hardware that can be said to make your life better more than any other upgrade, it is more RAM. RAM, or random access memory, is what stores all of the code your Mac is currently using. Whether you are opening an application or emptying the trash, that task takes up some RAM. In short, having more RAM enables you to do more and do it better.

For example: You are using Hotline to transfer the latest files from your favorite Hotline site, MacResource, and suddenly remember you are expecting an e-mail message from a friend. You want to check your mail without stopping the download on Hotline but you can't if you don't have enough memory to run bothe applications at the same time. Luckily, adding more RAM is very easy and relatively inexpensive nowadays.

Most Macs come with ample RAM in present day; 32 or more megs can cover everyday use. There are, however, some very RAM hungry games and applications out there such as Adobe Photoshop and the hit game Diablo. Virtual memory suffices for a while, but there is a noticeable difference between that and physical RAM using it in large quanitities.

It is simple to find which RAM module is compatible with your computer. There are four criterium to double check: speed of the RAM (measured in nanoseconds; the less nanoseconds, the faster the RAM), number of pins (the standards have changed over time from 30 to 72 and now 168 pin modules), the power/transfer type (such as SDRAM, 5volt, 3.5volt) and the capacity of the RAM.

Luckily, many catalogs make it quite simple to make sure you are getting the correct RAM for your machine by utilizing handy charts. Expect to pay

anywhere from 20 dollars to a couple hundred for a module, depending on it's capacity. Most of the time, it is not needed to know how fast or what kind of RAM it is, as this is usually taken into consideration on the charts. If you are intimidated by wires and high tech looking devices, you should have an authorized Apple Service Technician install your RAM.

Hard Drive Upgrading

The tale of the evolution of the Hard Disk is quite intriguing. The original hard drive consisted of a platter much larger than a dinner plate and held about as much as a modern day floppy disk and would put you in debt for quite some time. The current hard drives are roughly the size of a small paper back novel and can hold the capacity of about 1000 to over 18000 floppies and can be payed off with less than one average week's of work.

Currently, all Macintoshes come with sufficient sized drives: 2 gigabytes or more should be ample for any intermediate user. However, you are bound to run out of space on your standard drive, especially if you don't like to throw away files for fear that you may need them again. If you are one of these people, you are in luck: upgrading your hard drive on your Mac is very easy and, as was said, not too expensive nowadays.

Most Macintoshes can accomodate at least one hard drive, so you can use your old and new drives in tandum. If not, they can all support external hard drives which are much easier to install and do not waste valuable internal drive expansion space.

There are three important criterium when shopping for a hard drive: transer rates (including access time to the drive, which will make it operate noticeably faster), formatted capacity, and type of interface connection. You will not find a hard drive in modern day less than 1 gigabyte for sale. Go as large as your budget permits, since your drive can actually be transferred to a new Mac when you buy one. Hard drives nowadays are sold with many types of connection interfaces. You have the PC style, IDE drives, Ultra Wide SCSI drives, fast SCSI II drives, etc. In other words, be sure to know which type of connection your mac has before you buy a drive. Your Macintosh manual may have instructions for installing additional hard drives, but it may be a good idea if you don't trust yourself to have a certified technician install it, as you don't want to risk damaging your drive and/or computer.

Processor Upgrades

A great feature of the PowerPC Macintoshes, from the 7500 series and up, is an easily upgradeable processor. Instead of being directly soldered on to the motherboard as in the past, the processor and all supporting cache is housed on a removable and easily replaceable daughtercard, totally seperate from the motherboard. This enables easy trade-in or purchase of a new daughterboard, containing a newer and faster processor, without having to

purchase a completely new computer. This is one of the greatest shots in the arm you can give your Macintosh.

If you are planning to upgrade your processor, do it with a G3 upgrade card. There are many brands out there making them, so you can shop around and get a good deal on a   powerful processor.   This card will just replace your old processor daughtercard if you have a Mac with that capability. If you have a first generation PowerMac (6100, 7100, 8100 etc.) you can upgrade to G3 capabilites through an add on card. which replaces your current 601 processor. Upgrading your processor is the best way to boost your Mac if buying a completely new G3 is out of your budget range.