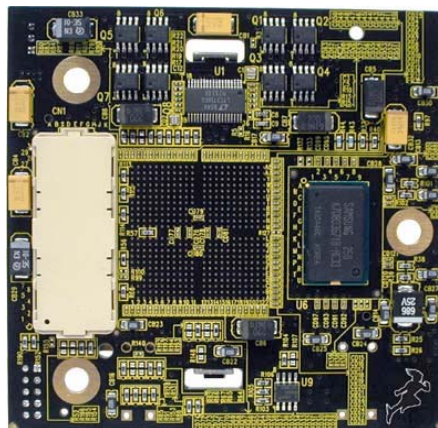© Apple

This Old Mac

Stepping Up to Gigahertz Speed with an Older G4 (Sawtooth)

by P.A.M. Borys, Step by Step Training

Technology envy is a terrible thing—especially when one becomes disgruntled with their current equipment. My husband and daughter both own a Sawtooth (350Mhz G4 with AGP graphics). Extensive iPhoto libraries really took their toll on the once formidable processing power of this well-built machine. Once an additional hard drive was added, and the latest version of X installed, the processing power really lagged behind my QuickSilver. The G4 machines were built with easy access in mind and working on these machines is a snap. So our thoughts turned to upgrade paths.

Our friends at Other World Computing (otherworldcomputing.com) had a product to meet our needs. We ordered The Mercury Extreme 1.4 gigahertz card. It arrived in a small box. Installation was easy requiring nothing more than a #2 Phillips Screwdriver and a pair of needle nose pliers (to remove heatsink clips.)

Front and rear of Mercury upgrade card

The specs for this model are:

- Motorola PowerPC G4 7455B 1.4GHz Processor
- 256K of 1:1 L2 Cache On-Chip
- 2MB of DDR L3 Cache operating @ up to 245MHz (6:1)
- Up to 1.4GHz Operation in 100MHz Bus G4 PowerMac Models
- Up to 1.4GHz Operation in 133MHZ Bus G4 PowerMac Models
- Compatible with Mac OS 9.2.1 and Higher, including all versions of Mac OS X 10.1, 10.2 and 10.3
- 3 Year Limited Warranty
- 30 Day 100% Money Back Guarantee Trial Period

Installation
The first caveat is to make sure your firmware is upgraded if your computer is a Power Macintosh AGP Graphics, Gigabit Ethernet or Digital Audio model, you must upgrade firmware to version 4.2.8. You must first boot into Mac OS 9 to perform this update. Please refer to this online Apple document: **http://docs.info.apple.com/article.html?artnum=120068.** To establish which firmware revision your system is running, check the "Production Information" in the Apple System Profiler. Your system must be at $004.28f1 or later.

When we did the upgrade, the instructions were not too clear. Now there is an improved .pdf with photos to show you the way. You must first remove the heatsink from your motherboard. With the needle nose pliers unhook the clips from the processor card. Remove the 3 screws from the processor daughtercard and set them aside as they will be used in the installation of the new processor. Placing your fingers under the edge of the processor daughtercard, pull straight up. Pulling at an angle risks damaging the processor socket so be careful here. The next step is to set the jumpers to your desired speed. The reason for this step was not obvious to us initially—why not set it for maximum speed, we wondered? Apparently, Final Cut Pro requires a valid speed to be reported correctly by Apple System Profiler. More information on this can be found at: http://eshop.macsales.com/Tech/index.cfm**.**This page also includes a full jumper setting chart. The jumper block is located on the top of the processor card, directly across from the fan connector.

Next, Place the cap onto the processor card you just removed and align the screw holes in the card and gently place over the logic board. Without pressing on the heatsink, firmly press straight down on the two rearmost screw holes until you feel the card "click" into place. Reuse the three Phillips screws, close up your machine, and reboot. Time to complete: about twenty minutes as we really looked over the instructions carefully.

Did it make a (noticeable) difference?

My husband is a difficult to impress mechanical engineer who is now in high tech. When he first booted up his machine after the upgrade, all he could say was "WOW!" Boot-up is instant. Where the machine formally crawled, it sprints. Working on the untouched Sawtooth, one immediately notices the difference. When my daughter finds her machine slow for her uses,

we'll definitely take a look at the OWC product line. There is a time when getting a new machine definitely makes sense but that means transferring data, reinstalling programs, email accounts, and address books. With a processor upgrade, your data is intact and you can achieve more on your present setup in less time. . You can reach OWC at 800-275-4576 or through their website at otherworldcomputing.com.