FPU Benchmarks

The FPU Benchmarks are three standard benchmark programs modified to take advantage of the Floating Point Unit in your computer. If you don't have an FPU, then the FPU Benchmarks are not available. The FPU can run floating point operations incredibly fast, but it is not directly supported by most applications. These tests will give you an idea of the potential of the FPU if you compare the results with the results of the same tests from the standard Benchmark Mix. The results of the tests are presented in two ways. The first column - labeled ABS. - is the time in seconds the test took, or in the case of KWhetstones is the actual number of KWhetstones per second your machine can do. The second column - labelled RAT. - is a ratio of the performance of your system vs. that of a standard Mac II. A Mac II should score approximately 1.0 in all three tests. Obviously, the higher the number you get, the better.

FPU KWhetstones

This is a very commonly used benchmark which is geared primarily to testing floating point speed. It does a lot of basically meaningless manipulations of floating point data in such a way as to emulate "real-world" number crunching. It tests both the basic four functions (+, -, *, /), as well as some of the transcendental funtions.

FPU Fast Fourier Transform

The FFT test is not actually a benchmark, but instead is a very powerful analysis method from the signal processing world. It runs a LOT of floating point calculations on complex numbers (numbers involving both real and imaginary parts). It mostly uses the basic four functions as well as using the COS function. This test runs on 256 element arrays.

FPU Matrix Multiply

A simple matrix multiply between two arrays of floating point numbers of 40x40 elements.

Note: Some tests are run repeatedly in order to obtain a significant result.