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Macintosh Plus, SE, and Classic: Speed Comparisons

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TOPIC ---

A Macintosh SE seems noticeably faster than a Macintosh Plus. Yet, their
spec sheets show the same processor and MHz speeds.

Macintosh SE Spec Sheet
      Processor: MC68000, 32-bit internal architecture, 7.8336 MHz clock
            frequency

Macintosh Plus Spec Sheet
      Processor: MC68000
          1. 32-bit architecture
          2. 8 (7.8336) MHz frequency

Macintosh Classic Spec Sheet
          - Microprocessor: 8 MHz MC68000 CPU
          - Internal architecture: 32-bit

Is MHz a reliable measure of apparent speed? How does the Classic compare
with each of them?

DISCUSSION --

The clock speed of the computer is not always the overriding factor in
performance. For example, a hideously-complicated program can takes an
hour to draw a picture, but a better-written program can do it in ten
minutes. Here, it depends on how compact the code is, not the processor
speed.

The clock speeds are identical, but the software burned into ROM is
different, causing the three systems to run at slightly different speeds.

The Macintosh SE is possibly 15 percent faster than the Plus, and the SE/30 is four times faster. In any event, the Classic is faster than the Plus by a maximum of 25 percent. That assumes that you're doing only those functions that have been optimized in the Classic. Usually, you'll see a slight increase in performance, and in some you'll see no difference. It all depends on what you're doing.

There are hundreds of things that influence performance. At the bit level, all three machines process a single processor instruction in exactly the same time. Things like processor caching will decrease the time it takes for that instruction to be loaded from memory, so performance increases a little there. Taking from the example above, if a routine is more compact, then it will do its job in fewer instructions. This means the system does the function faster. All this goes into determining the phrase, "...up to 25 percent faster than the Macintosh Plus."

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