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PMMU's Advantages in a Multitasking Operating System

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TOPIC ------------------------------------------------------

Some users have asked whether the Macintosh II computer's PMMU (Paged
Memory Management Unit) -- which handles the translation from 24 bits to
32 bits, and supports the 32-bit operating system -- provides any special
advantages, such as speed.

DISCUSSION -------------------------------------------------

The 68851 PMMU does not provide any advantage over the standard HMMU when
used with System 6. The HMMU and PMMU BOTH handle the 24-bit-to-32-bit
translation, which allows the existing Macintosh software to run on a
Macintosh II. There is also no increase in speed when using the PMMU
instead of the HMMU.

However, the advantages of PMMU become apparent when used with
multitasking operating systems, such as UNIX and System 7. Such systems
use virtual memory and require a logical-to-physical translation of an
address from the processor; this is where the 68851 PMMU becomes an
absolute necessity.

For more information on the advantages of the 68851 PMMU in a
multi-tasking, 32-bit operating system, see: "Technical Introduction to
the Macintosh Family" (ISBN#: 0-201-17765-X) page 206.

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