Tech Info Library

System 6: Maximum Addressable RAM (9/93)

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Revised:        9/2/93
Security:       Everyone


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

What is the maximum addressable RAM for a Macintosh under System
6.0.7?  We have a IIsi with 17MB of RAM installed (1MB on the main
logic board plus four 4MB SIMMs), and the "About the Finder" shows 7MB
available with the System using 10MB of RAM.


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

Macintosh system software version 6.0.x is currently unable to address
any RAM above 8MB that is installed in the logic board SIMM sockets.
The IIsi can detect and report the presence of a greater amount of
RAM, but the operating system won't use it.  The computer will behave
as if it has 8MB of RAM.   All the memory is available under A/UX or
System 7.0.

System 6, when starting up, switches to 24-bit addressing mode and
maps the installed RAM into an 8MB address space.  Any RAM above 8MB
is useless without a different operating system, A/UX being an
example.  The Macintosh knows that more RAM is installed but is unable
to use it.  You can verify that the RAM is recognized by selecting
"About the Finder" from the Apple menu.  It shows any RAM above 8MB as
being added to the system memory.

Connectix Corporation has several products that take advantage of
extra RAM under System 6:

• Optima makes System 6 32-bit clean and puts a Macintosh IIsi into
  32-bit mode.  This makes all of the physical RAM addressable by
  System 6.  You can have one application open at a time.

• Maxima makes it possible to use up to 14MB of the RAM installed in
  a System 6-based system as RAM, with the excess RAM to be used as
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    a RAM Disk. You can have more than one application open at a time.

- Virtual 2.0 uses NuBus address ranges to add virtual memory above
  the 8MB boundary (up to 14MB). It uses the NuBus slot address ranges
  to extend the 8MB limit by mapping this larger space onto an
  equal-sized disk image. It then uses the Paged Memory Management
  Unit (PMMU) function of the 68030 (or 68020 with 68851 PMMU) to
  manage the swapping of required sections of this new, larger memory
  map to and from disk.

To locate a vendor's address and phone numbers, use the vendor name as
a search string.

Article Change History:
2 September 1993 - Added application usage information about Optima and Maxima.

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