System 7: Contiguous Memory with Virtual Memory in 24-bit Mode

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Article Change History

08/19/92 - REVIEWED
- For technical accuracy.

TOPIC ----------

What is the largest contiguous memory block available with virtual memory in 24-bit mode?

DISCUSSION ----------

In 24-bit mode using virtual memory, total RAM can be set up to 13MB, depending on the CPU and the number and placement of NuBus cards. This memory is not a contiguous block, however. The largest contiguous block will be roughly 7.5MB.

Viewing the About this Macintosh window can appear confusing because the totals for RAM used by programs may seem to add up incorrectly. A total of 16MB of RAM is addressable under System 7. Some of this is memory reserved for ROM (1MB), IO (1MB), video for the Macintosh IIci or Macintosh IIsi (1MB), and NuBus cards (1MB each). This memory is mapped starting above the 8MB mark. Any free memory in the upper 8MB of RAM (up to the 5MB possible) forms an "upper memory block."

Under System 7, system heap first loads into the bottom 8MB of memory then programs, starting with Finder, load into the upper memory block, provided there is a large enough contiguous block there to hold the program. If there is not a large enough contiguous block in the upper memory, the program will load in the lower memory block. Thus it is possible to have a lower unused block of about 7.5MB (the lower 8MB minus system heap) and an upper unused block of about 4MB (or less). Viewing About this Macintosh lists only the largest unused block of memory, not the total unused memory.

Keywords: Sys7

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