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System File: What Increases Size Under System 6 and 7 (9/93)

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


When I choose "About this Macintosh..." from the Finder, it says the
System is 4 megabytes or larger.  Why is the System so big?


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


The System can get big, but unless you have a large number of fonts it
should never be larger than 3MB under System 7, and much less than
that under System 6.  There are several reasons the system will appear
to grow.  Here are the most common ones.


System 6
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System 6 acts differently from System 7 in that its RAM heap is a
fixed resource which needs to be constantly managed if you have
many INITs and/or fonts installed.  HeapFixer from CE Software is a
simple utility which allows setting the System 6 heap size.  The basic
rule under System 6 was to keep the System showing 25% free (that is,
white) space in the "About this Macintosh..." dialog.


These are the contributors to System File size under System 6:


• Fonts and INITs - both contribute to System memory requirements.
• Bit mode - System 6 is a 24-bit operating system.  This means that
  unless a System 6 Macintosh has a third-party INIT enabling 32-bit
  addressing (such as Maxima from Connectix), all installed physical
  RAM over 8MB will show up as additional System memory.


System 7
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Under System 7, the operating system maintains more extensive guards
against running out of memory.  Basically, the Cache (configured in
the Memory Control Panel) controls how much space to allocate to the
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System. Memory management was improved under System 7, and users no longer need to worry about the "25% free space" concept. The System will typically take up 95-99% of its allocation, leaving only a small bit of white space in the "About this Macintosh..." graphic. This is nothing to worry about. If you get messages that you need more memory, then you can allocate more in the form of Cache, or you should consider adding more RAM if there's none available for additional Cache.

Here are the factors that contribute to a large System File size under System 7:

- Fonts - Previous to version 7.1, each installed font drove the system's RAM requirements up.
- Cache - The amount of RAM Cache allocated in the Memory control panel is included in the overall figure for System RAM requirements. To correct: set the Cache to 256K or less, and restart.
- Extensions - Each extension obtains its own amount of RAM and contributes to a large System RAM requirement.
- Bit mode - if the Macintosh has more than 8MB of physical RAM installed and is set to run in 24-bit mode (under the Memory Control Panel), then the excess over 8MB shows up as System memory. To correct: set the Macintosh to run in 32-bit mode.
- RAM Disk - Macintosh computers supporting the Apple RAM Disk (Quadras and later) can create a RAM disk using a portion of their installed physical RAM. All RAM used in the RAM Disk shows up as System memory in the "About this Macintosh.." dialog.

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