# Tech Info Library

## Macintosh IIsi: How to Avoid Memory Fragmentation (8/95)

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

My Macintosh gives me incorrect reports about how much memory I have available.
I have a Macintosh IIsi with 5MB of RAM. I'm using system software version
7.0.1, and Microsoft Word 5.0 with the memory allocation reduced to 1MB.

When I choose "About This Macintosh," it tells me that system software uses 2MB
and Word uses about 1MB. It seems that I should have about 2 megabytes left, but
it says I have only 800K.

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

When you choose "About This Macintosh", it tells you the largest unused block of
memory, not the total amount of unused memory. This fragmentation of memory
occurs often, if you don't quit applications and desk accessories in exactly the
reverse order in which you launched them each and every time. Your computer may
have several unused blocks of memory mixed in with the used blocks of memory.

Order of Application Launches and Quits
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To fix a situation where you have fragmented memory, you can either:

• Quit all open applications and desk accessories, and then open them again,
or
• Restart your computer.

In order to avoid fragmentation again, be careful in planning the order in which
you open and quit programs:

1) Open first the applications and desk accessories you're least likely to
quit.

2) Open last those applications and desk accessories you're most likely to quit

during a work session.

When you need more memory, quit the application or desk accessories you opened most recently. By opening and closing applications and desk accessories this way, you free up a contiguous portion of memory. When you quit programs in random order, you're likely to have fragmented memory.

## The Role of System 7 Tune-Up

The System 7 Tune-Up 1.1.1, improves handling of low-memory situations. System 7 Tune-Up 1.1.1 has some bug fixes and other benefits that improve both System 7.0 and 7.0.1. However, it can lead to memory fragmentation by encouraging you to let the Finder decide which programs to quit when you need more memory.

With Tune-Up installed in your system software, it considers only whether an application has windows open, and not the order you launched them. It first closes applications with no windows open. This means it could actually quit a 2000K program to open a 1800K program, thus creating a 200K fragment in memory. Since the Finder asks if it's okay to quit a program in a low-memory situation, you can choose not to.

## Reducing Reserved Memory for Built-in Video

Use the Monitors control panel to reduce the amount of memory a Macintosh reserves for built-in video. To do this, hold down the Option key while clicking the Option button in the Monitors control panel. This brings up a special dialog box where you can set the maximum number of colors or grays to 256, 16, 4 or black and white. Restart your computer for memory changes to take effect. Here's a table that tells you how much memory you reserve for each selection:

Begin_Table

| Colors or Grays | Memory Reserved for Built-in Video |
|-----------------|------------------------------------|
| 256 | 350K |
| 16 | 190K |
| 4 | 126K |
| Black & White | 94K |

End_Table

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15 Aug 1995 - Editing changes.
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Support Information Services

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