Mac Plus, SE, and II: Memory Configuration and Speed (5/95)

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TOPIC ---

With the advent of larger SIMMs (single inline memory modules), there are several ways to configure a Macintosh Plus, Macintosh SE, or Macintosh II.

DISCUSSION ---

Macintosh Plus and SE

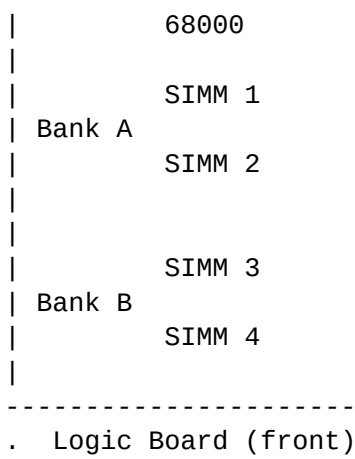
The Macintosh Plus and Macintosh SE can be configured in five ways:

- 512 KB
- 1 MB
- 2 MB
- 2.5 MB
- 4 MB

Memory expansion must follow strict guidelines that involve modification of the Macintosh logic board and correct placement of the SIMMs.

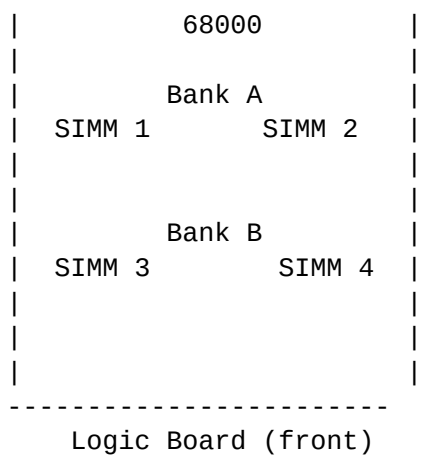
On a Macintosh Plus or Macintosh SE logic board are four SIMM sockets, labeled SIMM1 through SIMM 4. These sockets are paired, 2 banks of 2 sockets each.

For the Mac Plus:



. Logic Board (front)

For the Mac SE:



Logic Board (front)

• Bank A comprises SIMM 1 and SIMM 2; Bank A, the 2 slots towards the rear of the logic board.

• Bank B comprises SIMM 3 and SIMM 4; Bank B, the 2 slots towards the front of the logic board.

Both sockets in each pair must configured identically. For example, both SIMM sockets 3 and 4 must contain either 256K or 1MB SIMMs, or be empty.

The RAM density of the chips in Bank A must be greater than or equal to the RAM density of the chips in Bank B. For example, if Bank A contains 256K SIMMs, Bank B may be empty or contain 256K SIMMs, but not 1MB SIMMs.

Some configurations require changes to the logic board. There are two resistors that tell the Macintosh important information about what kind of SIMMs are installed.

• If you have only one row of SIMMs installed (say, Bank A has 1MB SIMMs installed and Bank B is empty), then the resistor marked "ONE ROW" must be present; otherwise it should be cut or removed. (The Macintosh Plus and Macintosh SE are not shipped with this resistor installed.)

• If your computer has 256K SIMMS in Bank A, then the resistor marked "256K BIT" must be installed. If either or both Banks have 1MB SIMMs, then the resistor must be cut or removed. (The Macintosh Plus and Macintosh SE come with the resistor installed.)

Here's a chart that shows all the currently possible SIMM configurations and resulting memory total for the Macintosh Plus and Macintosh SE:

Bank A	256K	256K	1MB	1MB	1MB
Bank B	empty	256K	empty	256K	1MB
256K Resistor	present	present	absent	absent	absent
ONE ROW Resistor	present	absent	present	absent	absent
Total Memory	512K	1MB	2MB	2.5MB	4MB

Macintosh II

There are currently four SIMM sizes for the Macintosh II:

• 512 KB
• 1 MB
• 4 MB
• 16 MB

The Macintosh II requires special 4MB SIMMs. Be sure to specify your Macintosh model when ordering these SIMMs and ensure that the vendor is aware of the difference. The Macintosh II requires the SuperDrive (FDHD) Upgrade to use 4MB

or 16MB SIMMs.

To take advantage of more than 8MB of physical RAM, the Macintosh II MUST have a PMMU installed, so that MODE32 can expand the system's memory map.

With the original ROMs, the Macintosh II will not start up if you install 4MB or 16MB SIMMs in bank A. You'll hear musical chimes at startup, indicating a hardware failure. Install 4MB SIMMs in bank B, and use 256K or 1MB SIMMs in bank A. This provides a maximum of 68MB of RAM installed.

With the FDHD ROMs installed, up to 16 MB SIMMs are supported in bank A increasing the maximum memory configuration to 128 MB.

Restrictions on placing SIMMs in the Macintosh II are similar to those for the Macintosh Plus and Macintosh SE: the SIMM sockets are divided into two banks, A and B, each containing four SIMM sockets. All SIMMs in either bank must be of the same type. No resistors need to be cut to differentiate between the possible configurations.

With original ROMs:

Bank A	256K	to a Maximum	1 MB
Bank B	empty		16 MB
Total Memory	1 MB		68 MB

With FDHD ROMs:

Bank A	256K	to a Maximum	16 MB
Bank B	empty		16 MB
Total Memory	1 MB		128 MB

SIMM Speed Ratings
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• Macintosh Plus: SIMMs must be rated 150ns or faster (the number on the SIMM must be 150 or smaller)

• Macintosh SE: SIMMs must be rated 150ns or faster (the number on the SIMM must be 150 or smaller)

• Macintosh II: SIMMs must be rated 120ns or faster (the number on the SIMM must be 120 or smaller)

Article Change History:
19 Apr 1995 - Updated the Macintosh II section of this article.

Support Information Services

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