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Macintosh II and IIX: 16MB SIMMS, MODE32, and RAM (9/95)

Article Created: 9 December 1991

Article Reviewed/Updated: 15 September 1995

TOPIC -----

According to the "Macintosh Memory Guide" from Connectix, Page 17, second paragraph:

"3) On standard Macintosh II computers Bank A cannot use SIMMs larger than 2MB. 4, 8, and 16MB SIMMs must only be put in Bank B. Also, Bank A must be filled with SIMMs of 2MB or less if Bank B is to be used. Bank A is the set of four sockets to the right as you face the front of the Macintosh. This is a problem unique to the Macintosh II, and is caused by problems in the Macintosh II ROMs which are not overcome by adding MODE32 or MAXIMA. However, you can fix this one problem by installing the FDHD Apple SuperDrive Upgrade kit, which includes a set of Macintosh IIX ROMs. As a result of this limitation, the largest memory configuration on unmodified Macintosh II computers using 1MB and 4MB SIMMs is 20MB: four 1MB SIMMs in Bank A and four 4MB SIMMs in Bank B. When Macintosh IIX ROMs are added the maximum memory the computer will support is 128MB, eight 16MB SIMMs."

Is this information accurate? I was under the impression that the Macintosh II and Macintosh IIX could physically support only 4MB SIMMs.

DISCUSSION -----

Below is an excerpt from another article describing MODE32. The excerpt describes Macintosh II RAM issues. To see the full article, search under MODE32.

"The Macintosh II and Macintosh IIX require 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 Macintosh II FDHD Upgrade to use 4MB SIMMs.

This upgrade has been discontinued.

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.

The Macintosh II will not start up if you install 4MB 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."

If you read the part about the Macintosh II carefully, you will see that it cannot have greater than 1MB SIMMs in Bank A, or you will get musical chimes. Since this happens so early in the boot process, there is nothing that can be done in software to remedy this. This means that a Macintosh II can have a maximum of 68MB of RAM installed (using a PMMU and MODE32). To achieve this amount, you would have 4MB in Bank A, and 64MB in Bank B (using 16MB SIMMs).

A final, but very important issue here concerns the part discussing the special SIMMs required by the Macintosh II and Macintosh IIX. There is nothing to say that vendors will actually make 16MB SIMMs using this configuration.

Article Change History:

- 15 Sep 1995 - Revised to show discontinued upgrade.
- 02 Apr 1995 - Updated for clarity.
- 02 Mar 1994 - Emphasized the need for a PMMU to utilize more memory.

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Keywords: <None>

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19960215 11:05:19.00

Tech Info Library Article Number: 9523