

## Prodigy SE RamDisk Release Notes:

### LOWER BOARD RECOVERABLE RAMDISK

December 21, 1987

The 3.0B Firmware associated with lower board RamDisk (Gate Array, PAL, and PROM) has been released. The new RamDisk Software, version 1.28 is release as of 12/21/87 with one known problem - you can't create a RamDisk under MultiFinder.

#### GENERAL DESCRIPTION:

The lower board recoverable RamDisk is an update (both hardware and software) to the Prodigy SE recoverable RamDisk that is currently shipped with every Prodigy SE. Up until now, the Prodigy SE has ignored (wasted) the slower memory that is found on the Macintosh SE motherboard. By using a "bank switching" technique, this upgrade allows most (all but 3 Kbytes) of the slower, 16 bit Macintosh SE memory to be used for a recoverable RamDisk.

This update can be applied to any Prodigy SE except the very early Rev "B" versions which do not have the PAL chip (U26).

Although there can be only one recoverable RamDisk, this RamDisk can actually "straddle" upper and lower board memory spaces. For example, if you have a 2 meg Prodigy SE installed on a 2 meg Macintosh SE, you could create a single 2.5 megabyte RamDisk that uses the entire 1.9 megabytes that is available on the Macintosh SE and takes the remaining 0.6 megabytes from the high speed memory on the Prodigy SE.

We feel that a recoverable RamDisk represents the best utilization of the slower, 16 bit memory on the Macintosh SE motherboard since, even with the loss of speed caused by accessing this memory, the RamDisk is still much, much faster than a hard disk. In addition, this allows you to have your cake and eat it too, since you can create a 3.7 megabyte RamDisk and still have 4 megabytes of high speed 32 bit memory on the Prodigy SE board for use with standard applications (this example is for a 4 meg Macintosh SE and a 4 meg Prodigy SE).

For most applications, we recommend that the recoverable RamDisk use only the memory on the Macintosh SE motherboard, thereby saving the high speed, 32 bit memory on the Prodigy SE for normal applications.

#### SOFTWARE UPDATE

The lower board recoverable RamDisk requires a software update in the form of a new Prodigy SE RamDisk application. This new application has the additional features needed to set up and utilize the bank switching scheme necessary to use the memory on the Macintosh SE motherboard.

The required software is:

Prodigy SE RamDisk, Ver. 1.28 and above

The "First to Boot" feature of the recoverable RamDisk is not available on the Prodigy SE. The RamDisk must be selected as the startup device via the control panel.

RamDisk, Ver. 1.28 cannot be created under MultiFinder. It does work, however, to create the RamDisk and then run MultiFinder.

#### HARDWARE UPDATE:

The lower board recoverable RamDisk requires a hardware update in the form of a new PROM, PAL and GATE ARRAY. These parts are all socketed and can therefore be applied in the field. There is no need to return the Prodigy SE to Levco to have this update performed. The PROM is Ver 3.0B and the Gate Array and PAL versions are shown in the configuration table below.

The new Prodigy SE PROM/Gate Array/PAL update does the following things:

- 1) The original lower board (slow) memory can now be used in conjunction with the upper (fast) memory as a recoverable RamDisk.

2) The new PROM contains a new diagnostic test built in - if a user thinks there may be something wrong with his/her machine, then he/she can run this test to hopefully eliminate the Prodigy as a source of the problem, or get some meaningful information about what the problem might be. An application is included with the RamDisk (SETest v1.0) which initiates the built-in diagnostic program.

3) All Macintosh SE machines have a bug if the unit has dual floppy drives - if you access the upper floppy drive, it will first turn on the lower drive, turn it off again, then finally turn on the upper one. This bug is now fixed in the Prodigy SE, even though it is not Prodigy related.

4) A bug in the SANE package has been fixed. Some accounting packages were malfunctioning on the Prodigy SE - they should now work fine.

5) The quality of sound has been improved - in particular, the phone dialer in HyperCard now works properly. This will also influence a few other programs in which sound has been buzzy or garbled.

**Note:**

This update will not work on the early Rev "B" Prodigy SE's.

**CONFIGURATIONS:**

The following tables show the size of the recoverable RamDisk and the hardware version numbers for the different upper/lower memory configurations. Memory configurations that are highlighted represent maximum compatibility. Loss in software compatibility may result from a configuration where there is more memory on the Macintosh motherboard than on the Prodigy SE.

This is a result of relocating the screen to the 4-meg area which leaves a "hole" in the memory map between the screen and the rest of memory. This should not be a problem for any application that adheres to Macintosh programming guide; lines or that runs on a Macintosh II or large screen. An application that ignores the screen pointer or calculates the screen pointer based on memory size may not function properly.

Levco recommends only the maximum memory configurations. The lesser compatibility configurations are not recommended or supported and are shown only for completeness.

Memory on Prodigy SE	1	2	4
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Memory on Macintosh SE	1	1	1
Default RamDisk	960 Kbytes	1088 Kbytes	2112 Kbytes
Max Lower Board RamDisk	960 Kbytes	960 Kbytes	960 Kbytes
Max Upper/Lower RamDisk	1216 Kbytes	2240 Kbytes	4288 Kbytes
Gate Array/PAL version	4.31/U26-1M	4.32/U26-2M	4.3/U26-4M
Memory on Prodigy SE	1	2	4
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Memory on Macintosh SE	2	2	2
Default RamDisk	1984 Kbytes	1984 Kbytes	2624 Kbytes
Max Lower Board RamDisk	1984 Kbytes	1984 Kbytes	1984 Kbytes
Max Upper/Lower RamDisk	2240 Kbytes	3326 Kbytes	5312 Kbytes
Gate Array/PAL version	4.31/U26-1M	4.32/U26-2M	4.3/U26-4M
Memory on Prodigy SE	1	2	4
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Memory on Macintosh SE	4	4	4
Default RamDisk	3904 Kbytes	3904 Kbytes	3904 Kbytes
Max Lower Board RamDisk	3904 Kbytes	3904 Kbytes	3904 Kbytes
Max Upper/Lower RamDisk	4160 Kbytes	5186 Kbytes	7232 Kbytes=
Gate Array/PAL version	4.31/U26-1M	4.32/U26-2M	4.3/U26-4M