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## PowerBook: Setting Up to Run from a RAM Disk (9/94)

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TOPIC -----

This article tells you how to set up a PowerBook RAM disk for efficient use of your PowerBook.

DISCUSSION -----

- 1) Make sure that you have about 10MB of free space on the PowerBook hard disk (install space), and also about 3MB to 4MB as permanent backup for the RAM disk. Have a current System Folder already installed on your internal hard disk.
- 2) It's best to have a full 8MB of RAM in your PowerBook. You can use a RAM disk with 6MB, but it's usually too awkward.
- 3) Use the Memory control panel to create a 4MB RAM disk. Later, you should increase or decrease the RAM disk size depending on your particular circumstances. The trade-off is between the size of the RAM disk and the amount of memory remaining to run system software and applications. A 3.2MB RAM disk seems to be optimal.
- 4) Install a minimal system on the RAM Disk with your System installation disks.
- 5) Copy selected items manually back into your System Folder. These items are optional. The more that you copy back, of course, the less space is available on your RAM disk for applications and documents. The objective is to get everything you need onto the RAM disk and avoid powering up the hard disk. You will need to fine-tune your setup to suit your circumstances. You'll at least want to copy back Chooser, Startup Device, Portable or PowerBook, and Battery.

Examples of what you might copy to the RAM disk System Folder include: Alarm Clock, LaserWriter, Memory, AppleShare (not File Sharing), and a few fonts. Additional third-party items are: SAM Intercept, SCSI Probe, and the PowerBook File Assistant's Assistant Toolkit extension.

- 6) Select up to three applications you want to put on the RAM disk. Keep only the application and the accessory files you really need.

- 7) Leave at least 200K to 300K free for documents and other files. Even better is 400K to 500K, because things like Preference files and other items often take additional space.
- 8) Once your RAM disk is completely configured, drag the RAM Disk icon over your internal hard disk icon. This creates a folder on your hard disk called "RAM Disk." This copy will serve as a backup of your RAM Disk. Periodically copy the RAM disk to the hard disk when the RAM disk changes.

If you ever totally lose power, you can quickly restore your RAM Disk by dragging the contents of the RAM Disk folder to a new, but empty, RAM Disk. Frequently back up your RAM disk to your hard disk because you may be continually optimizing it at first. It takes only a few seconds to copy the entire RAM disk to the hard disk, replacing the existing folder.

NOTE: Having multiple System Folders on your hard disk isn't generally recommended, and System Picker (a utility that allows you to select among System Folders on the same hard disk) may prove useful.

- 9) In addition, regularly copy documents in progress to the hard disk as a backup. This takes only a second, and the hard disk doesn't stay powered very long. Just after doing such a copy, put the PowerBook to sleep with the Sleep Fkey (available as part of the PowerBook File Assistant software), and then awake it just so the hard disk will sleep sooner.
- 10) Leave your PowerBook in sleep mode all the time so that the RAM disk is always around and ready to run. Shutting down erases the RAM disk on many of the PowerBook models. Restarting is OK.

NOTE: The Persistent RAM disk feature of PowerBook File Assistant software allows information in the RAM disk to be saved between restarts and shutdowns.

If you switch batteries while your PowerBook is asleep, MAKE SURE THE POWERBOOK IS PLUGGED IN AND GETTING POWER, otherwise your RAM disk will be erased! When on the road and far from a power outlet, back up your entire RAM disk to the hard disk when the first or second (not the third and final!) battery warning comes on. Then shut down, switch the batteries, reboot, copy the RAM disk contents back, and continue computing.

The RAM disk on the PowerBook 100 survives shutdowns and you can switch the main battery while in sleep mode without the power supply plugged in, since the 100 has a secondary set of batteries. There's a slight battery drain when in sleep, but a PowerBook seems to be able to last a few weeks in sleep mode.

- 11) If your PowerBook crashes, use a paper clip to push to the restart button. The RAM disk will usually be intact if you do this. You can

use the on/off button to restart the crashed PowerBook if you don't mind losing the contents of your RAM disk and recreating it from your hard disk copy.

- 12) Use the Startup Device control panel to select which disk to start from (RAM Disk or internal hard disk). Switch between running the System Folder on the hard disk and the minimal System on the RAM disk. Use the RAM disk just when you want to be power conscious.
- 13) Put your PowerBook to sleep whenever possible. From the Battery control panel of Special menu you can put the PowerBook to sleep. If you have the PowerBook File Assistant installed, use the Sleep Fkey (Shift-Command-0) to instantly put the PowerBook to sleep whenever needed (no need to switch to Finder and select Sleep). Wakeup is instantaneous if you have AppleTalk turned off and are running from a RAM disk.

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