TurboCharger 2.0

ℝe→eiwed by ℂr□ig Bl□ckstone

TurboCharger 2.0 is a commercial RAM cache similar in concept to the RAM cache available through the Control Panel desk accessory with Apple's System 3.0 and up. A RAM cache simply sets aside an amount of your Mac's memory for storing portions of your programs and data so that they are available from the computers memory and do not need to be read in from the disk every time they are needed.

Apple's RAM cache is not very flexible and it's performance is not on a par with earlier caching schemes (TurboCharger 1.11, for example). To activate Apple's cache you must open the Control Panel desk accessory and specify the amount of RAM that you wish to set aside for the cache and turn it on. Unfortunately, Apple choose to leave the cache settings in the Parameter RAM, an area of memory that is maintained by the battery that keeps the Mac's clock current. The fact that the cache settings are maintained by the battery means that the cache settings that you entered for one disk will be used on all disks until you change them via the Control Panel. This arrangement has some very annoying consequences: Some of your programs will not run without all of the Mac's memory (on a 512K Mac) so you may have to open the Control Panel and turn the cache off. There are often many disks on which you have specified a start-up application other than the Finder, and some of these applications may not run with the cache taking up memory (on a Mac with a megabyte or more of memory this would not normally be a problem unless you set the cache size to greater than 512K).

What this means, if the cache is on, is that after you shut-down the Mac and insert a system disk with a large program as the start-up application, it will try to load for a while, only to run out of memory and return you to the Finder or worse, bomb. You must then reboot the Mac with another start-up disk and reset the Control Panel from it.

The point is: Apple's RAM cache scheme has big problems for those with less than a megabyte of memory. It appears that Apple designed their RAM cache with hard disks in mind, hence the desktop information seems to have high priority in remaining in the cache. This isn't much help for "the rest of us" without hard disks.

Fortunately, there is now an alternative to Apple's RAM cache for all Mac Plus and Mac 512K users (old or new ROMs, 400K or 800K disks), it is TurboCharger version 2.0, from Nevins Microsystems of Capitola, California. Nevins produced the only RAM cache product (TurboCharger version 1.11) to sell in quantity for the original 512K Mac. TurboCharger 1.11 garnered universal acclaim for its high performance and "set and forget" ease of use.

TurboCharger version 2.0 was created for the new System (3.0 and up) as the original TurboCharger is not compatible with these new System versions. For Mac-users with the original 512K, (old ROMs) TurboCharger 1.11 may still be used. The manual doesn't specifically say whether version 2.0 will work with a 512K with the original ROMs but it does hint that it does (call Nevins [408-479-0860] to make sure!). The new 2.0 version is necessary for both the Mac Plus and the Enhanced 512K Mac.

Almost forty pages have been added to the new manual, suggesting that the new version2.0 gains more than just compatibility with the newest Macs.

One of the problems with the first version of TurboCharger was that the RAM cache was designed to be specific to a particular start-up disk, rather than a particular application. If you use a disk with more than one application on it, the RAM cache size must be set for one application or the other, not both. The original version was also lacking in that it would not allow the caching of a networked disk. Happily, version 2.0 has addressed both of these limitations and more.

TurboCharger 2.0 makes use of information available in almost any major Mac application: The amount of memory needed by the program to run under Switcher. This information is used by TurboCharger to intelligently go about memory allocation. Since TurboCharger 2.0 knows how much memory to give an application, it is much more efficient in its memory usage. No longer does TurboCharger hog 256K (if that's how you had it set) to run an application that would run quickly in 160K. TurboCharger is now smart enough to butt out when it finds that an application needs 512K to run. It has been designed to give up memory to an application if the application must have it. TurboCharger will only use excess memory after the application gets a minimum amount (as in the minimum partition required to run under Switcher). In general, there are alot fewer reasons to see the dreaded "Sorry, there has been a system error" message.

If TurboCharger doesn't find the Switcher "partition" size information, it will use the default memory allocation amount specified by the user when the disk is TurboCharged for the first time. The ability to configure itself to a particular application is probably the single most important new feature in TurboCharger 2.0 (aside from new ROM compatibility).

The installation of TurboCharger 2.0 is similar to version 1.11: You copy the TurboControl application and the TurboCharger system file onto the disk to be TurboCharged (the manual details some other methods of TurboCharging a disk). With the TurboControl you may set the default memory allotment for instances in which no Switcher information is available for an application. The menu structure of TurboCharger 2.0 reflects the added complexity of its new features in the amount of new dialog boxes and possible configurations that a user might come up with. Fortunately, many of these options are relevant only to those whose Macs are networked.

The support of networking will certainly be important to these users as the speed of networked resources is often very slow, and therefore a good place for TurboCharger to go to work. I did not test any of the networking capability, so I cannot testify to its effectiveness. Given the complexities of networking, it may be wise to call Nevins and inquire about compatibility with your particular set-up.

I have used TurboCharger 2.0 with:

Helix 2.0	MacPaint 1.5	MacWrite 4.5	Switcher 5.0
Excel 1.0	Fedit 3.21	REDIT 1.2	ResEdit 1.0
Font/DA mover 3.1	Red Ryder Host	MS-BASIC 2.1	Packit II

All of the listed programs worked normally without any system failures. Those that require very large amounts of memory (Helix) will derive little benefit from TurboCharging, but it never seems to hinder their performance either. One possible exception is Excel; it would run out of memory when loading a 54K spreadsheet with TurboCharger running. One application that bombs instantly with TurboCharger on the same disk is Red Ryder 9.2. This is very frustrating to me as Red Ryder is my most commonly used application.

TurboCharger 2.0 does have it share of bugs aside from those mentioned above. Most notable is its refusal to disengage when an application has been launched on another system disk (without shutting down) that isn't TurboCharged! The new disk becomes the source of the system files for the launched application and yet the application is cached and the TurboCharger indicator stays on!! TurboCharger also shares a bug with version 1.11 in that it will often refuse to recognize a newly inserted disk from within an application.

Aside from some fairly minor bugs, TurboCharger 2.0 is a big improvement over both its earlier version and Apple's Control Panel RAM cache scheme. It is easier to use, and only slightly more complicated to install than the original. As with many things computer, the more memory the better! With a one megabyte Mac, you will be able to run TurboCharger with Switcher and get good performance (you can do it with 512K too) with a number of applications.

Too bad about Red Ryder though……

See you all on GEnie!!

Craig Blackstone