Controlling the System Memory Settings

A user can alter several of the system memory configuration settings by changing controls in the **Memory** control panel. This panel contains controls governing the operation of the disk cache, virtual memory, and the addressing used by the **Memory Manager**.

The Disk Cache panel is a replacement for the HFS RAM Cache panel found in earlier system software versions in the General control panel. The controls allow the user to configure the size of the disk cache used by the Operating System during file access operations. In system 7.0, unlike earlier versions, the user cannot turn off disk caching.

A **disk cache** is a part of RAM that acts as an intermediate buffer when data is read from and written to file systems on secondary storage devices. Data is saved there in case it is needed again in the very near future. If it is, then the Operating System reads the data from the disk cache and not from the secondary storage device (which would take considerably longer). By increasing the cache size, the user can increase the likelihood that data recently read from or written to the file system is still in the cache. The minimum cache size is 32 KB. The default size is 32 KB per megabyte of installed RAM (so a machine with 4 MB of RAM would have a default disk cache size of 128 KB). The maximum disk cache size is 128 KB per megabyte of installed RAM (so a machine with 4 MB of RAM would have a maximum disk cache size of 512 KB).

The Virtual Memory controls allow a user to set various features of virtual memory, including whether virtual memory is turned on and, if so, how much virtual memory is available. The user can also specify the volume of the **backing-store file,** the file used by the Operating System to store unused portions of code and data. The user must restart the machine for any changes to the virtual memory configuration to take effect. Note that the Virtual Memory panel appears only on machines capable of supporting virtual memory.

The 32-Bit Addressing controls determine the size of the address space to use in the machine. The size of the address space is determined by the number of bits used to store memory addresses, as explained in **About the Memory Manager**. The 32-Bit Addressing panel appears only on machines capable of running with 32-bit addressing. The user can use these controls to turn 32-bit addressing off and on. Any changes made to the addressing will not take place until the machine is restarted.