Managing the CPU Load   Monitoring processing power consumed

When you want to open multiple channels of sound, or even when you want to open a single channel of sound that requires intensive processing to provide a high-quality sound (for example, real-time expansion of compressed sampled sound with stereo output and linear interpolation), you may want to pay close attention to the amount of processing power consumed by your sound-related activity. The new **Sound Manager** allows you to monitor and limit the load placed on the CPU by sound activity.

You need to be able to monitor the sound processing done by your application because every Macintosh computer has some absolute limit to its processing power, which is determined largely by the speed of the CPU. Other factors also affect how much sound-related activity a given computer can support, such as processing necessary to track mouse movements, processing done by the Operating System, processing done by interrupt routines, and so on. When no sound channels are open, the **Sound Manager** considers the computer to be completely available for sound tasks. In that case, the current load value is 0 percent. As sound channels are opened, the current CPU loading value increases from 0 percent to the maximum value, 100 percent. The amount of increase due to a new sound channel depends on the initialization parameters specified in the call to **SndNewChannel** that created that channel.

> **Note:** The CPU load values provided by the **Sound Manager** do not account for any nonsound processing, such as networking software or other interrupt code.

In the enhanced **Sound Manager**, the loadCmd command returns (in *param1*) the percentage of CPU load that would be reserved by calling **SndNewChannel** with the initialization parameters passed into *param2* of the loadCmd command. On a Macintosh II, the value returned in *param1* might be 15 percent, indicating that a stereo sound channel would need 15 percent of the available processor power to play sound.

The totalLoadCmd command returns a potentially more useful number. The totalLoadCmd command is identical to the loadCmd command except that instead of returning just the percentage of processor power for the specified initialization parameters, it adds the current CPU loading value to that number. The value returned in *param1* is the total processor power that would be used by the **Sound Manager** if those initialization parameters were actually used to allocate a sound channel. If the number returned is greater than 100 percent, allocating that channel would not be advisable.