

## Fractal Size and Memory

CFG can create fractals of different sizes. This not only permits custom use of the fractal, from using it for a background on a 19" monitor to creating an interesting mask for a QuickTime transition, but it permits the user to maximize speed and memory usage. Initially, the fractal generation size may be small so that the general fractal area can be found quickly (as generating a small image requires much less time than a large image). Once the desired fractal location has been found, the size can be increased for very detailed fractal image generation. Smaller fractal sizes also use less memory.

Size selection occurs through use of the Size menu. The basic selection include Screen Size, Mac 9" Screen, Mac 12" Screen, Mac 13" Screen, Mac 19" screen, and three QuickTime screen sizes. Screen Size sets the image size to the total amount of real estate used by all monitors connected to the system. Mac 9", 12", 13", and 19" Screen sizes set the image to the pixel size of those standard monitors. QuickTime sizes set the screen sizes to 160x120, 320x240, and 640x480.

The final menu item permits custom fractal size selection. The user selects whether to specify the fractal size using either pixels, inches, or centimeters by toggling the appropriate radio buttons. The horizontal size and vertical size can be set by typing the sizes into the text boxes. There are minimum and maximum sizes for a window. The minimum size is 120 pixels horizontal and 100 vertical. The maximum window size is 32000 x 32000 pixels (hope you have LOTS of RAM for this size).

This program requires a large amount of memory, especially as the number of colors and image size increase. The settings of 1024K is fine for a monitor of size 640 x 480 pixels and an 8 bit video card. If you use a larger monitor or one with a video card with more depth (bits per pixel), the size of the memory allocated to the Color Fractal Generator should be increased. The base amount of memory to allocate to the program is 512K. For each desired fractal, add at least: bitmap size  $[(x \text{ pixels} * y \text{ pixels}) * \text{screen depth (bits/pixel)} / 8 / 1024]$  K. This is only a guideline. With some experimenting, the user will get a feel for the amount of memory needed for a desired image.