

The Graphics Path

Tracing the path from data in memory to a dot on a screen traverses the major parts of the Macintosh graphics system.

Color QuickDraw considers colors as ideals: an RGB color record consists of three 16-bit values, one each for red, green, and blue. The resulting 48-bit record is sufficient to specify far more colors than the human eye can discern.

Color QuickDraw and the graphics environment determine how this ideal becomes real.

The largest pixel value usable with system software version 7.0 is a 32-bit direct pixel, of which the red, green, and blue components have 8 bits each, and 8 bits are currently unused. RGB values of 24 bits can specify 16 million colors, which the human eye can just barely distinguish.

Advances in technology don't always mean increases in complexity. The color table system devised for **Color QuickDraw** was an expedient, to allow a smaller amount of RAM to display nearly full-color images. Direct pixel specification is inherently simpler-at the cost of additional RAM to hold the greater information needed to specify an image, and additional machine cycles to move it around.

The following two sections trace the steps from a user selecting a color to sending signals to a video screen. Of necessity, these explanations are simplified to provide an overview of the process.