



# Tech Info Library

## QuickDraw, Color QuickDraw, 32-Bit QuickDraw, and QuickDraw GX

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TOPIC -----

This article explains the relationship of QuickDraw, Color QuickDraw, 32-bit QuickDraw, and QuickDraw GX.

DISCUSSION -----

### QuickDraw

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QuickDraw shipped with the original Macintosh computers. It's in every Macintosh computer, and consists of drawing commands used by windows, menus, and dialogs as well as the usual graphics drawing such as the old MacPaint programs. It's sometimes called original QuickDraw.

QuickDraw supports only 8 colors: black, white, cyan, magenta, blue, green, yellow, and red; although most programs that use only original QuickDraw draw in black and white. There are two reasons for this:

- The original Macintosh computers didn't have color displays, so color seemed useless (unless you were printing).
- There are limitations to what you can do with color under original QuickDraw.

### Color QuickDraw

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Color QuickDraw first shipped with the Macintosh II, and is in every Macintosh II class computer, (which includes the SE/30). Color QuickDraw supplements QuickDraw by adding new color support. With Color QuickDraw, you can create and display incredible color images, among other things.

At this time Apple also introduced hardware for color displays. Most of the color PICT files you see today were made with Color QuickDraw. Color QuickDraw also makes it possible to have color menus, color windows, icons, and so forth. Most of the "graphical" toolbox routines were revised to support the color enhancements.

Notes: Inside Macintosh V talks about Color QuickDraw. So does Inside Macintosh VI, but they are completely different. What Inside Macintosh VI calls Color QuickDraw is really 32-bit QuickDraw.

The Color QuickDraw 1.2 INIT that shipped with system software 6.0.5 can't be used on computers prior to the Macintosh II or SE/30 (like the Plus, SE, or Classic) because there's no Color QuickDraw on board.

### 32-Bit QuickDraw

32-bit QuickDraw first shipped as an INIT with system 6.0.5. It supplemented Color QuickDraw, and therefore required Color QuickDraw to be present. Now every Color QuickDraw computer Apple creates also has a version of 32-bit QuickDraw in ROM. 32-bit QuickDraw was an enhancement for Color QuickDraw in that it made it easier to create graphics, and had additional graphics operations.

Any CPU with Color QuickDraw, and either 32-bit QuickDraw in ROM or the 32-bit QuickDraw INIT running, as well as any CPU running system 7 supports 32-bit QuickDraw.

A factor introduced with system 7 was the provision of 32-bit QuickDraw support on any computer. Although what occurs on a non-color QuickDraw computer (like the Classic) is a hybrid of true 32-bit QuickDraw. In any case, System 7 supports all the calls.

Therefore System 7 gives 32-bit QuickDraw and Color QuickDraw support to computers prior to the Macintosh II or SE/30. This doesn't necessarily give color capability to these systems -- but allows software that makes calls to 32-bit QuickDraw or Color QuickDraw to operate without crashing. System 7 also gives the Macintosh II, IICx, IIfx, LC, LCII and computers with 32-bit QuickDraw in ROM (such as Macintosh IICi) a less buggy version of QuickDraw, with some additional features. Just as system software evolves, so does the underlying graphics software. The latest version will always be in the latest system software release.

### QuickDraw GX

QuickDraw GX is the next evolution of QuickDraw. Like Color QuickDraw and 32-bit QuickDraw, it co-exists with the previous versions of QuickDraw, although it no longer requires them. However, GX requires system 7.1, so you'll automatically have 32-bit QuickDraw and Color QuickDraw support built in.

To summarize:

- You always have QuickDraw in a Macintosh.
- If you have Color QuickDraw, you also have QuickDraw.
- If you have 32-bit QuickDraw, you also have Color QuickDraw and QuickDraw.

- If you have system 7 you have 32-bit QuickDraw and Color QuickDraw support as well as QuickDraw (the actual code executed is different than the usual 32-bit QuickDraw).
- QuickDraw GX provides QuickDraw and some version (either true or a hybrid) of 32-bit QuickDraw and Color QuickDraw as well.

And just to be clear, the different types of QuickDraw can all be used together. You can ALWAYS intermix the calls, as long as they're supported by the system you're using.

Article Change History:

30 November 1993 - Clarified what System 7 does for systems prior to the Macintosh II and SE/30.

6 January 1994 - Reworded QuickDraw GX information.

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