Tech Info Library

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

```
Revised:        1/6/94
Security:       Everyone
```

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

===

Article Created: 30 August 1993
Article Reviewed/Updated: 6 January 1994

TOPIC ---

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

DISCUSSION --

QuickDraw

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

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.

Tech Info Library Article Number:13121