



# Tech Info Library

## Macintosh Quadra: VRAM and Pixel Depth

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### Article Change History

03/23/93 - RETITLED

- To match another similar article.

### TOPIC

I'm confused on the VRAM issue. If I can't run a 21-inch monitor in 24-bit using the full 2MB of VRAM, and I can run a 16-inch in 24-bit with only 1MB of VRAM, then what would I use the full 2MB of VRAM for? A 19-inch monitor maybe?

### DISCUSSION

The Macintosh Quadra 700 and 900 built-in video supports the Apple 21-inch color and monochrome monitors to 8-bit, 256 colors only. Adding VRAM beyond 1MB to the Macintosh Quadoras when using these monitors is not beneficial; to achieve greater pixel depth on the 21-inch color monitor, you'll need a third-party video NuBus card.

A 19-inch monitor that matches the characteristics of other monitors the Macintosh Quadra supports may work; however, none of the other monitors are specifically 19-inch monitors.

The following chart should help explain the video expansion options available on the Macintosh Quadoras today. Note that this information should supersede any information you have received thus far.

The following chart lists the Macintosh Quadra 700 and 900 internal video's maximum pixel depths supported, depending upon the VRAM configuration:

Display size	512K VRAM	1MB VRAM	2MB VRAM
12-inch landscape 384 x 512, such as 12-inch RGB	8 bpp	24 bpp	24 bpp
12-inch Monochrome			

640 x 480	8 bpp	8 bpp	8 bpp
13-inch RGB and VGA 480 x 640	8 bpp	8 bpp	24 bpp
Super VGA 800 x 600	8 bpp	8 bpp	24 bpp
15-inch Portrait (b/w) 640 x 870	4 bpp	8 bpp	8 bpp
16-inch Color 832 x 624	8 bpp	8 bpp	24 bpp
2-Page Display (b/w) 870 x 1152	4 bpp	8 bpp	8 bpp
21-inch Color 870 x 1152	4 bpp	8 bpp	8 bpp
PAL with convolution	n.a.	8 bpp	8 bpp
PAL without convolution	8 bpp	8 bpp	24 bpp*
NTSC with convolution	n.a	8 bpp	8 bpp
NTSC without convolution	8 bpp	8 bpp	24 bpp

\* Note: there are two ways to wire a video cable for connecting a PAL monitor to a Macintosh Quadra; only by using the proper extended sense code are you able to achieve 24 bits per pixel. For details, search under "Quadra" and "video sense pinouts".

Note that 512K of VRAM is the minimum configuration for the Macintosh Quadra 700; it is 1MB of VRAM for the Macintosh Quadra 900.  
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