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Centris 610 & 650, Quadra 800: Built-In Video (7/94)

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TOPIC -----

This article discusses the built-in video characteristics for the Macintosh Centris 610, Centris 650, and Quadra 800 computers.

The information in this article relative to the Centris 610 and Centris 650 is also relevant to the Quadra 610 and Quadra 650.

DISCUSSION -----

The video hardware design of the Macintosh Centris 610 and 650 and the Quadra 800 derives closely from the earlier Quadra machines. Most of the Quadra video features were carried through to the Centris 610/650 and Quadra 800. The main exceptions are support for Apple convolution (flicker reduction) for NTSC and PAL, and support for 24 bits per pixel (bpp).

The video hardware for all three systems is virtually identical. The only exception is that the Centris 610 only requires 100 ns VRAM, while the Centris 650 and Quadra 800 require 80 ns VRAM.

The maximum supported pixel depth is 16 bpp. This is not a matter of the amount of VRAM in the machine -- it is a hardware limitation. The RAM/DAC used by all three machines simply does not include the hardware required to do 24 bpp on any display. The same is true for the lack of support for Apple convolution -- the hardware necessary to do this is not present.

The Centris 610 and 650, and the Quadra 800, do support all the monitor types supported by the Quadra 950. This includes support for a 1024 x 768 resolution on 19-inch displays (which was not provided by the Quadra 700).

One area that was positively impacted was performance. At the same processor clock speed, the video section of these new machines outperforms the video section of the older Quadas. (Video performance on the Centris 650 is better

than the Quadra 700, and on the Quadra 800 is better than the Quadra 950.) Due to an improved video memory controller design, one wait state was removed from many of the frame buffer access cycles. This results in reduced memory access time overall, and therefore improved performance.

Article Change History:

28 Jul 1994 - Added reference to Quadra 610 and 650 to aid in searching.

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