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Macintosh Quadra 700 and 900: Answers to Common Qs (11/94)

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TOPIC -----

This article answers common questions about the Quadra 700 and 900 computers.

DISCUSSION -----

Q. Can the key position be sensed through software?

A. There is no way to detect the key position through software.

Q. Why didn't Apple use the IIfx RAM? Don't the latched writes speed up the CPU?

A. Apple didn't use the IIfx RAM on the Quadras because it wasn't necessary. The writes are "latched" on the 68040 itself, so we didn't need to do it externally. In other words, if the 68040 needs to do a read and a write at the same time, it will do the read first (since it needs to read data to continue). It saves the write data until the read is done, and then it will write.

Q. How can we get the physical Ethernet address of built-in Ethernet?

A. The Ethernet address is not available via system call.

Q. What is the speed of VRAM?

A. The minimum speed of the VRAM is 100ns, but Apple's upgrade package will be 80ns to assure future compatibility.

Q. Does Apple support 24-bit mode on the 21-inch Color Display? A. When we designed the frame buffer controller, the 256K VRAM SIMMs were the only SIMMs Apple was using (in the Display Card 8•24). The design goal was to use 4 banks of VRAM so that we could do "four-way-bank- interleaving." This is a method for getting the data out of the four banks in a staggered fashion, since no single bank could provide data fast enough to refresh most monitors at higher bit depths.

If we used larger densities of VRAM (that is, 512K), we still couldn't obtain 24-bit on the 21-inch display because the video driver chip (RAM-DAC aka AC/DC) could not support the clock speeds required to do 24-bits on a 21-inch monitor. This would require a much more expensive RAM-DAC. We would have to use 64-bit data paths in the frame buffer, which would have been prohibitively expensive for a main logic board

solution.

Q. Does Apple's Display Card 8•24 support the 21-inch Color Display in 24-bit?

A. The Macintosh Display Card 8•24 doesn't support the 21-inch Color Display at 24-bit (2MB is not enough). The RasterOps 24-bit card provides a third-party solution.

Q. Is the 21-inch Color Display supported by the on-board video on the Macintosh IIci, IIsi, or LC?

A. The 21-inch Color Display isn't supported by the on-board video on the Macintosh IIci, IIsi or LC.

Q. Is the AppleCD SC drive supported internally by the Quadra?

A. The older AppleCD SC drive is not supported internally by the Quadra 900.

Q. What is a Pseudo Block transfer?

A. The term "Pseudo Block transfer" is really a 68040 term that indicates what type of system bus cycle we run when a Move16 instruction moves data to/from a NuBus board. Developers should use Move16 in their I/O drivers for higher throughput.

Q. Is the Symantec compiler compatible with the 68040 CPU?

A. Version 5.0 of the Symantec compiler is compatible with the 68040 CPU.

Q. Why isn't there 16-bit monitor support on the internal video as on the Macintosh LC?

A. We don't have 16-bit monitor support because the CLUT-DAC chip we use to generate the video control signals doesn't have a 16-bit mode. We couldn't use the CLUT-DAC chip from the LC because our video operates at higher frequencies (up to 100 MHz), which weren't supported by the LC CLUT-DAC.

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