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Motorola 6888x 680X0: Specifications

This article last reviewed: 31 May 1990

TOPIC -----

I am writing specifications for a procurement and have questions about the Motorola 6888x and 680x0 chips used in the Macintosh SE/30 and Macintosh II family.

- 1) Is the external data path the same on the Motorola 68881 and 68882? Is it a 16- or 32-bit bus to the CPU?
- 2) Are the chip sets tightly matched (68020 to 68881 and 68030 to 68882), or can they be connected to other members of the 68000 family (that is, 68000 to 68881)?

DISCUSSION -----

- 1) The MC68881 and MC68882 use the same coprocessor interface (the M68000 Coprocessor Interface as defined by Motorola) and are pin-for-pin compatible with each other. The coprocessor interface can accept or provide transfers in 8 bits, 16 bits, or 32 bits; the bus is 32-bits wide.
- 2) The MC68020 and MC68030 have the M68000 Coprocessor Interface built in and can work in conjunction with any coprocessor that adheres to this interface. This means that these chips are not specifically matched to the MC68881 or MC68882. The MC68000, MC68008, MC68010, and MC68012 do not have the M68000 Coprocessor Interface built in. These chips still can be interfaced to M68000 coprocessors, like the MC68881, by providing instruction sequences that emulate the protocol of the M68000 Coprocessor Interface.

Motorola publishes user's manuals on all their microprocessors and coprocessors. For more information, search the Technical Info library under "Motorola."

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Keywords: SPECSHT

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19960215 11:05:19.00

Tech Info Library Article Number: 5685