

## HP 98620

# Direct Memory Access Controller

The HP 98620A/B DMA Controller card enables HP Series 200 computers to execute direct transfers between memory and selected I/O interfaces. The controller is always used in conjunction with one or more interfaces that support DMA capability, and is used to increase the maximum data exchange rate between the computer and its peripherals. The computer sets up a direct memory transfer on the DMA controller card after which the controller handles the transfer without further intervention from the computer. This frees the computer and processor to perform other tasks while the transfer continues automatically at the fastest transfer rate possible.

The DMA controller's dual-channel capability enables the computer to execute two DMA transfers simultaneously, or initiate a second transfer while the first is still in progress. In order to provide maximum possible transfer rates, the DMA controller performs no formatting on data during transfer. Output data must be formatted before it is sent; incoming data is formatted by the computer after it has been stored in memory by the DMA controller and interface. Note that in order to use a given interface for DMA transfers, the interface must be equipped for DMA operation. Not all HP Series 200 interfaces are capable of supporting DMA operation.

Both the HP 98620A and HP 98620B can be used in HP Series 200 computers. However, when a DMA controller is used in HP Series 200 computers with memory management hardware and HP-UX operating systems, only the HP 98620B can be used. The HP 98620A does not support the additional interrupt levels and other functions required by HP-UX.

### Capabilities

The DMA controller has the following capabilities and operating limits:

- Two independent channels with priority control,
- Either 64K or 128K-byte transfer blocks,
- Maximum of 1.2 million word/byte transfers per second, and
- Handles either word or byte transfers.

### Unpacking and Inspection

Carefully examine the card for damage during transit. If damage is found, notify the carrier and the nearest HP Sales and Service office. The Sales and Service office will arrange for repair or replacement of the controller without waiting for the claim against the carrier to be settled.

Fort Collins Systems Division • 3404 East Harmony Road • Fort Collins, Colorado 80525

**HP Part Number**  
**98620-90605**

Printed in U.S.A. 6/85



**HEWLETT  
PACKARD**

## Handling

The controller card contains circuits that can be damaged by electrostatic discharge. Be sure to use a controlled-static workstation or equivalent environment when handling or working on the card. Avoid touching the printed circuit edge connector fingers. Contamination of the contact surfaces can cause unreliable operation. Should they become dirty, they can be cleaned using a cotton swab dampened in isopropyl alcohol.

## Installation

The DMA controller card does not require any configuration prior to installation. With power disconnected from the computer, remove an accessory cover plate or interface to expose an empty accessory backplane slot. Slide the card into the empty slot, then seat it firmly into the backplane connector. Replace the cover plate or interface that covers the card, then reconnect the computer power cord. This completes installation of the card.

To verify that the board has been properly installed and is working, run the system tests software for your computer using the procedures included with the test software. Refer to language operating and programming manuals for information about how to use the card in programs.

## Card Identification

The DMA card does not have a cover plate or label with the model number printed on it. The card is identified by the part number etched into the metal circuitry on the board near one of the card extractors. The model number is identified as follows:

- 98620A cards have the part number 98620-66501.
- 98620B cards have the part number 98620-66503.

The 98620-66503 is a direct replacement for the 98620-66501. However, a 98620-66501 cannot be used to replace the 98620-66503 in a computer that uses the HP-UX operating system.



98620-90605