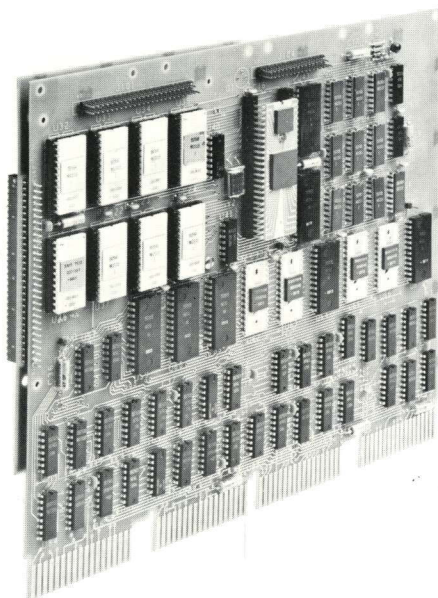


PDP-8E/PDP-8A FLOPPY DISK CONTROLLER



Direct Interface To:

Orbis 76/77
Shugart 800
Calcomp 140
Pertec 400/500
Innovex 210
GSI 110

FEATURES

- Low Cost—\$440 in quantity 100.
- Single (8.5" x 15.7") hex PC board plug compatible with PDP-8A Omnibus; or single (8.5" x 10.5") quad PC board with second PC board mounted to it for PDP-8E.
- Up to 4 Drives (daisy chain configuration) with overlapped head seek.
- IBM 3740 format compatible (256,256 bytes/diskette). Optional high capacity data format (325,248 bytes/diskette).
- High data throughput via PDP-8E/PDP-8A DMA requiring no CPU intervention during data transfer.
- Up to 4K 12 bit words may be transferred in a single operation.
- Simplifies user's PDP-8E/PDP-8A software disk driver development.
- Automatic head unload after 4 seconds if no disk activity.
- Error retry of 10 times during data transfer requests.
- Jumper selectable DMA priority.
- Jumper selectable device addresses.
- Utilizes LSI bipolar microprocessor for reduced circuit count.
- Single +5 volts power supply (may be powered from PDP-8E/PDP-8A).
- Bootstrap mode automatically loads and starts PDP-8E/PDP-8A program from disk.

DESCRIPTION

The SMS FD0800/FD1800 is a complete PDP-8E/PDP-8A compatible floppy disk controller. It is packaged on quad/hex PC boards for controlling up to 4 daisy chained floppy disk drives. High data rates are sustained through use of PDP-8E/PDP-8A DMA data transfer. Large data files may be read or written in a single operation without PDP-8E/PDP-8A CPU intervention. Data is transferred continuously across disk track boundaries and successive sectors to reduce the complexity of user written PDP-8E/PDP-8A software drivers.

An "intelligent" DMA channel technique is used to perform disk functions such as SEEK, READ, WRITE, COMPARE, and FORMAT. A disk operation is

specified by loading parameters of the operation in a 6 word I/O Request Packet (IORP) area in PDP-8E/PDP-8A memory. Parameters specified include disk request function, disk track and sector address, PDP-8E/PDP-8A data buffer address, PDP-8E/PDP-8A data buffer length, next IORP address, etc. The disk operation is then initiated by simply issuing an I/O command to the controller. The FD0800/FD1800 then utilizes the IORP information to complete the disk request, return status, and interrupt the PDP-8E/PDP-8A. The PDP-8E/PDP-8A driver software is simplified since no CPU intervention is required during data transfer, and all status and error conditions are automatically updated in the IORP by the FD0800/FD1800.

