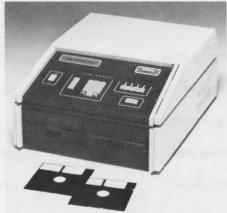# MODEL 200A DATA CONTROL UNIT

## APPLICATIONS

The Data I/O Model 200A Data Control Unit (DCU) with Data File Operating System (DFOS) provides on-line data storage for PROM and logic device programming.

The DCU works with any compatible RS-232C programmer. Three serial I/O ports permit connection of up to three programmers, or two programmers and any other RS-232C compatible data communication instrument. When used with the Data I/O Production Programmer, the DCU can operate as a slave under remote control.

Alternately the DCU may be controlled from an optional front panel or from a CRT terminal.

The DCU uses 5¼" floppy diskette storage for programming data, and indexes individual data files under custom-definable part numbers. Combinations of up to 12 alphanumeric characters are valid.

## MODES

| NAME | DESCRIPTION |
|------|-------------|
| SEND DATA | Outputs data from diskette to the programmer or to another data communication instrument via the RS-232C port. |
| STORE DATA | Records data pattern received via RS-232C port on diskette. |
| DIRECTORY | Displays part numbers of the data patterns on diskette. |
| SELECT | Initiates auxiliary function using two-digit code. (See below.) |

## SELECT FUNCTIONS AND CRT CONTROL COMMANDS

The select functions can either be initiated from a CRT terminal or at the Data Control Unit's optional control panel. When the DCU is used with the Model 100A Production Programmer, all functions (as well as the modes listed above) may be controlled at the Production Programmer.

| CODE | NAME | DESCRIPTION |
|------|------|-------------|
| 01 | Send to File | Stores data pattern received via RS-232C port on disk. |
| 02 | Copy File | Copies data pattern from disk 1 to disk 2. |
| 03 | Delete File | Erases a particular file from a disk. |
| 04 | Copy Disk | Copies disk in drive 1 onto disk in drive 2. |
| 05 | Format Disk | Erases a disk and stores basic formatting information for later reference by the Data Control Unit. |
| 06 | List Directory | Lists the part numbers of the data files stored on a DCU disk. |
| 07 | Available Space | Displays the number of kilobytes of space left on a disk. |
| 08 | File Device Family and Pinout Codes | Sets up the DCU to include device codes in data files for programming with the MOS Pak, UniPak or 120A/121A. |
| 09 | No Device Family and Pinout Codes | Sets up the DCU for creating files without device codes. |
| 10 | Offset Option | Captures a portion of the input data or alters the addresses of outgoing data. |
| 11 | No Offset Option | Deselects the Offset Option. |

## ERROR CODES

| DISPLAY | DESCRIPTION |
|---------|-------------|
| ADDR FIELD ERROR | Address field error. Format violation during an input operation. |
| ADDR RANGE ERROR | Address range error. Same address was received twice during an input operation. |
| BAD DISKETTE | Bad diskette. Diskette is not formatted. |
| BAUD RATE ERROR | Baud rate error. DCU and peripheral not synchronized during I/O transmission. |
| CRC ERROR | Cyclic redundancy check error. Accuracy check of transmitted data failed. |
| COPY ERROR | Copy error. Diskette duplication was unsuccessful. |
| DATA FIELD ERROR | Data field error. Format rule was violated on input. |
| DEVICE TIMEOUT | Device timeout. No data was received via RS-232C port for 35 seconds. |
| DISK ERROR | Disk error. Disk drive hardware problem. |
| DISK FULL | Disk full. Not enough space is left on diskette to store file. |
| FORMAT ERROR | Format error. Disk drive has a timing problem. |
| INV ADDR FIELD | Invalid address field. Input format rule violated. |
| INV FORMAT CODE | Invalid format code. |
| LOST DATA | Lost data. Timing error. |

# DATA I/O

## ERROR CODES

| DISPLAY | DESCRIPTION |
|---|---|
| **MAP ERROR** | Map error. Diskette is not formatted. |
| **NO CONT SECTORS** | No continuous sectors. Data storage is scattered. Diskette needs to be copied. |
| **NO DISK IN DRIVE** | No disk in drive. Diskette is not completely installed. |
| **NO SUCH PN** | No such part number. File was not found on diskette. |
| **NOT SYSTEM DISK** | Not system disk. The Data File Operating System (DFOS) has not been loaded. |
| **OVERRUN ERROR** | Overrun error. Data Control Unit not ready to receive input data. |
| **PARITY ERROR** | Parity error. Incoming data has the wrong parity. |
| **PN ALREADY USED** | Part number already used. An attempt was made to create a file using a part number already on the disk. |
| **RAM ERROR** | RAM error. Faulty RAM. |
| **RECORD COUNT** | Record count error. I/O format rule was violated. |
| **SECTOR NOT FOUND** | Sector not found. Diskette is not reliable. |
| **SEEK ERROR** | Seek error. Diskette is not reliable. |
| **SINGLE DRIVE SYS** | Single drive system. An operation requiring two drives was attempted using a Data Control Unit with only one drive. |

| DISPLAY | DESCRIPTION |
|---|---|
| **SUM-CHECK ERROR** | Sum-Check Error. Calculated and recorded checks of data do not agree. |
| **WRITE PROTECTED** | Write protected. An attempt was made to store a file on a write-protected disk. |

## I/O FORMATS

| | |
|---|---|
| ASCII-BNPF | ASCII-Hex (Percent) |
| ASCII-BHLF | ASCII-Hex (Apostrophe) |
| ASCII-BI0F | ASCII-Hex (Comma) |
| Binary | ASCII-Hex SMS |
| DEC Binary | RCA Cosmac |
| Spectrum | Fairchild Fairbug |
| ASCII-Octal (Space) | MOS Technology |
| ASCII-Octal (Percent) | Motorola Exorciser |
| ASCII-Octal (Apostrophe) | Intel Intellec 8/MDS |
| ASCII-Octal SMS | Signetics Absolute Object |
| ASCII-Hex (Space) | Tektronix Hexadecimal |

## ORDERING INFORMATION

| | |
|---|---|
| 901-0188-001 | 200A, Dual Disk Drive, 100/120V |
| 901-0188-002 | 200A, Dual Disk Drives, w/Control Panel, 100/120V |
| 901-0188-003 | 200A, Single Disk Drive, 100/120V |
| 901-0188-004 | 200A, Single Disk Drive, w/Control Panel, 100/120V |
| 951-0188-001 | Disk Drive Update Kit |
| 951-0188-002 | Control Panel Update Kit |
| 324-0188-002 | Extra DFOS Diskette |
| 950-0133-001 | Blank Disks, Box of 10 |

All Data Control Unit Configurations are shipped with the operating system diskette (2 copies), power cord, serial interface cable, instruction manual and operator's guide.