CONTROL DATA®
9780 DISK STORAGE UNIT
DESIGNED FOR ORIGINAL EQUIPMENT MANUFACTURERS

The CONTROL DATA 9780 Disk Storage Unit is a 200-million byte, random-access, peripheral storage device. Each removable disk pack contains ten oxide recording disks. Data can be written on 19 of the 20 recording surfaces. Positioning information is permanently recorded on the remaining surface.

The basic disk storage unit consists of a cabinet containing a power supply, logic chassis, and deck. The deck holds the drive spindle assembly and a voice-coil positioning mechanism. Head positioning is performed by a closed-loop, proportional servo system driving a voice-coil linear actuator.

The disk storage unit operates as a single-channel (to controller) device with rotational position sensing and seek-overlap features to maximize throughput. Diagnostic capability has been incorporated into the disk storage unit to the extent that most maintenance and trouble-shooting can be performed by using controller micro-diagnostic routines.

SPECIFICATIONS
RECORDING FORMAT AND CAPACITY
Capacity, Formatted (8 bits per byte):
   *13,030 bytes per track
   *247,570 bytes per cylinder
   *200,000,000 bytes per spindle
       *Excluding home address and record zero
Recording Density:
   4040 bits per inch (bpi), inner tracks
   384 tracks per inch (tpi)
Tracks Per Surface:
   808 data tracks plus 14 spare tracks

PROCESSING SPEED

Data Transfer Rate (3600 rpm spindle speed):
806,400 bytes per second

Bit Transfer Rate (3600 rpm spindle speed):
6.451 megabits per second

POSITIONING TIME:

822 Tracks: 55 milliseconds
One Track: 10 milliseconds
Average: 30 milliseconds

DISK PACK

Number of Disks: 12 (10 recording, 2 protective)
Disk Diameter: 14 inches
Coating: Magnetic oxide
Pack Weight: 20 pounds (approximately)

RECORDING HEADS (per disk storage unit)

Type: Self-loading, single-gap, no-erase
Number: 20 (19 read/write and one position servoing)

OPERATOR CONTROLS

Switch/Indicators: Start/Stop
Write Disable (prevents writing)
Select Lock (fault indication and clear)

Indicators: Physical Unit Number (unit ready)
Maintenance (indicates off-line)
Logic Plug (logical unit number)

INTERFACE

Control Lines: Daisy-chained from unit to unit
Single-ended transmission over twisted-pair cables with 91-ohm termination
IBM 3330-type commands and transmission levels

Data Lines: Star-connected to groups of two units and daisy-chained between the two units
Balanced-line transmission over twin coaxial cable (200 ohms line-to-line)
IBM 3330-type signals and transmission levels

POWER REQUIREMENTS

AC Power: 208 ($\pm$10%) VAC, 60 ($\pm$1%) Hz, single-phase
220 ($\pm$10%) VAC, 50 ($\pm$1%) Hz, single-phase

DC Power: +24 VDC at 42 milliamps nominal (for AC power sequencing)

ENVIRONMENTAL RANGE

Operating Temperature: 60 to 90°F
Operating Humidity: 20 to 80 percent RH
Storage Temperature: —30 to +150°F
Storage Humidity: 5 to 95 percent RH

Specifications are subject to change without notice.

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