3310 Disk Storage

Product Description

- The 3310 is a 'fixed media', direct access, online storage facility designed to meet the cost performance needs of small and intermediate systems. 3310 also supports the new 'Fixed Block' mode (FB-512) of recording available with 4331 processor architecture.

- Attachment of the 3310 subsystem to the using processor is made via a Director Controller Interface (DCI) to the DCI Adapter feature (DCIA) of the using processor. The 3310 subsystem can be comprised of from 1 to 4 disk storage drives. Up to four 3310 subsystems can be attached to 1 DCIA

The following models of 3310 are available:

- Model A1 A single disk storage drive with associated power supply and Device Adaptor Feature.

- Model A2 Two disk storage drives with associated power supplies and Device Adaptor Feature.

- Model B1 A single disk storage drive with associated power supply for attachment to Model A2.

- Model B2 Two disk storage drives with associated power supplies for attachment to Model A2.

Maintainability/Serviceability Features

- New online version of Analysis Program 1 Version 2 (AP1) to support system problem determination. AP1 will also be available as a stand-alone version.

- System Logging of detailed sense information associated with 3310 subsystem errors.

- EREP1 support under DOS/VSE. DOS/VS EREP type support under releases of DOS/VS lower than DOS/VSE.

- Pre-analysis of sense data by Fault Symptom Code Generator (FSCG) during customer operation — provides Maintenance Analysis Procedure entry points.

- Inline microdiagnostics are invoked via the shared CE/Operators system control, providing Error Halt Display Codes (EHDC) for entry into Maintenance Analysis Procedures.

Maintenance Information Manuals that include:

- Maintenance Analysis Procedures (MAP's) in Maintenance Aid (MAID) format.

- Error Code Dictionaries

- Message Analysis

- Sense Analysis

- Theory of Operations

- 2nd level logic diagrams

- Installation procedures

There are no PM (S/C 08) requirements on 3310.

CE Career Path

This is a DP CE career path product.

3310 Disk Unit

☐ In keeping with current design concepts, the disks, read/write heads, access mechanism, (which is of the Voice Coil Motor CM type) are housed within a fixed sealed module

☐ Externally mounted on the module is the associated electronics package providing the functions of read, write, servo controlled accessing (using prerecorded servo information) and error detection

☐ The disk module employs a 'closed loop' airflow system that ensures a contamination free environment within the module

☐ Rotational Position Sensing (RPS) is available as a Standard design feature allowing 'disconnection' during rotational delay time thereby increasing controller availability for other operations

General Characteristics

☐ Capacity   64,520,192 BYTES per drive

☐ Format   Fixed Block (512 BYTES) Record concept providing:
512 BYTES per sector
352 sectors per logical cylinder
358 logical cylinders per drive

☐ Access Time   Single Track 9 m/sec MAX
Average Access Time 23.5 m/sec NOMINAL
Average Access Time 27.0 m/sec MAX

☐ Data Rate   1,031,000 BYTES per second.

3310 Device Adapter (DAD)

This feature is housed within the Model A1 and A2.

The main functions of the Device Adapter include:

☐ Attachment of up to 4 3310 disk drives to the subsystem.

☐ Data serializing/deserializing for each drive on the subsystem.

☐ Error Checking and Correction (ECC) of errors encountered in reading data. (ECC hardware supplies correction information for read data errors of up to 3 contiguous bits within a block (512 BYTES) of data).

☐ Data transfer and supporting control operations to and from each drive on the subsystem.

☐ Interface operations via the Director Controller Interface to the using System Director Controller Interface Adapter.

☐ Monitoring of events within the Device Adapter and attached disk drives.

☐ Notification of unusual events to the Director Controller Interface Adapter.

Technologies

VTL (Vendor Transistor Logic)
MST (Monolithic Transistor Logic)
EMERALD (EMROS)
DUTCHESS
STREAKER (Programmed Logic Array)

3310 Programming Support

☐ Initial 'fixed block' programming support for 3310 is provided with DOS/VSE

☐ For releases of DOS/VS lower than DOS/VSE a 'Mode Compatability' feature is available on the using system

☐ The mode compatability feature allows 23XX (Count Key Data) emulation on the 3310 subsystem

i.e,   2311 x 7 per 3310 disk drive or
2314 x 2 per 3310 disk drive

☐ Mixed mode (concurrent 23XX emulation and 3310 native mode — fixed block) is also available, initially with DOS/VSE. This allows gradual migration of customer data sets from Count Key Data format to fixed block format.