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.

For IBM internal use only
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.

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 compatibility 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.