

3480

Magnetic Tape  
Subsystem



*IBM 3480, photo is of a design model*

## PRODUCT DESCRIPTION

The IBM 3480 is a Tape Subsystem composed of a Control Unit Model A22 and up to four Tape Units Model B22. This Tape Subsystem is a high performance successor to today's 3803/3420 Model 8 Tape Subsystem. The use of VLSI technology allows a 60% reduction in power consumption, 60% less floor space and generates 60% less heat than the 3803/3420 subsystem.

A 3 megabyte data transfer rate at the tape drive, combined with a 512K byte buffer, provides significantly higher performance. The use of the buffer allows prereading of data from the new compact cartridge.

Digital servo motor control, thin film technology R/W head, more powerful error correction code and the elimination of vacuum columns, capstan motors and reflexive markers improve and provide new levels of reliability.

New recording methodology is used. Recording density is approximately 38 K bytes per inch. Tape speed is 2 meters (78.6 inches) per second. The IBG (Inter-Block Gap) is a written 2mm (.08 inch) pattern.

## Software Support

MVS/370 or MVS/XA (JES2/JES3) both in either:

FULL FUNCTION

3420 CODE COMPATIBILITY

- With EREP 2.2 or up.

Please refer to P-letter for details.

## Service Features

The maintenance Device will be the prime tool for servicing the 3480 Tape Subsystem. Soft-copy MAP's (Maintenance Analysis Procedures) provide machine checkout and functional verification. Console messages and EREP reports along with microdiagnostics provide FRU isolation. OLT's are used to verify the Channel Interface. Hard copy listings of message display check codes can be used for drive error analysis.

## Product Classification

3480 is a Medium System I/O and can be serviced in E/ME/A by Account System CE's

For A/FE 3480 is classified as a General Systems Product and can be serviced by General Systems and Data Systems CSR's.

## Predictive Maintenance

Predictive maintenance replaces preventive maintenance. EREP reports showing deteriorating performance will provide necessary information to do predictive maintenance. There is no scheduled preventive maintenance for the 3480 Tape Subsystem.

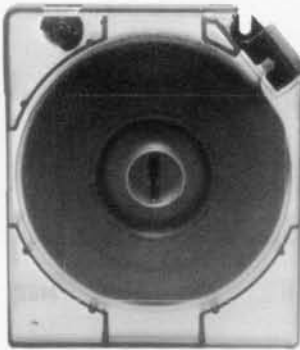
## Installation

The new Tape Subsystem is designed for simplified installation and provides significant improvement over 3803/3420 Tape Subsystem installability.

New standard features of the 3480 Subsystem include:

**Message Display** — Each 3480 Model B22 contains two tape transports. Each transport can display host CPU messages (mount, dismount, clean), drive activity messages (ready, rewind, etc.) or drive error messages up to eight characters long.

**Microprocessor Control** — Both 3480 Model A22 and B22 use a microprocessor for controlling operations.



*Photo is of a Design Model*

**Tape Cartridge** — Tape media is a chromium dioxide formulation 1/2 inch wide contained in a 10.2 cm x 12.7 cm x 2.5 cm totally enclosed single reel cartridge.

Nominal tape cartridge capacity is 200 MB (using 24 K byte blocks).

**Simplified Drive Operation** — The entire load/unload operation is automated. Drive cleaning has been simplified for the Customer by the use of a cleaner cartridge. The operator panel contains three switches, rewind—unload—ready/not ready.

New commands for the 3480 Tape Subsystem include locate block ID. A unique block ID is written for each data block on tape.

Locate block allows a high speed search for a particular data block.

Performance is enhanced by performing most error recovery procedures in the 3480 Model A22 Control Unit, thereby reducing Host software dependency. The use of error recovery action codes in the sense information further reduces software overhead and channel connect times.

## Optional Features

Optional Features of the 3480 Tape Subsystem are:

- Second Channel Interface (channel B)
- Third Channel Interface (channel C)
- Fourth Channel Interface (channel D)
- Two Control Unit Communication Coupler Accessory

Several new commands are associated with these features, including:

**Assign/Unassign** — These commands replace the many switches mounted on the 3803 tape controller.

**Set Path I/D** — Sense Path Group I/D.

These commands ensure proper access in a multi-CPU environment.

**Control Access** — This command allows a Host CPU with tape drives assigned to allow access by another Host CPU through the use of a password.

With the Standard Dual Control Unit Communication Capability and an Optional two Control Unit Communication Coupler, each 3480 Model A22 can access up to eight 3480 Model B22 Tape Units (sixteen transports). A physical path exists from each 3480 Model B22. Allocation of drives can be swapped between the two 3480 Model A22 Control Units to optimize performance and resource utilization.

Performance is further enhanced by workload balancing between the two control units. In the event of a 3480 Model A22 failure, the user can still access all sixteen transports while the CE/CSR repairs the defective unit.

## Attachment

The 3480 Model A22 Control Unit attaches to Systems 303x, 308x, 4341 and 4381.

Attachment is to a block multiplexor channel. Data transfer rates are 1.5 megabytes DC Interlock, 2 megabytes streaming and 3 megabytes streaming, dependant upon host CPU and switch setting on the 3480 Model A22.

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