

IBM INTRODUCES NEW GENERATION OF TAPE DRIVES; CARTRIDGES REPLACE TAPE REELS

TUCSON...IBM today announced the 3480 Magnetic Tape Subsystem, a new generation tape subsystem that uses compact cartridges containing a new half-inch-wide chromium dioxide tape.

The 3480, which was developed by GPD in Tucson and is being manufactured there, more than doubles the rate at which tape devices transfer information. It offers significantly greater data reliability with major reductions in space, power, and maintenance requirements.

"The 3480 represents a new level of technological sophistication in the marketplace today," Carmin R. Rosato, GPD vice president and Tucson general manager, said. "With the 3480 we are responding to the increasing data storage needs of our customers. This subsystem sets new performance and reliability standards."

The cartridge is about one-fourth the size of a standard reel of 10.5-inch magnetic tape, yet it stores up to 20 percent more data -- for a total of 200 million characters. Information from a central processor can be "written" on the new cartridge or "read" from it at rates of up to three million characters per second -- or more than twice the rate at which current IBM tape drives process information. An innovative thin-film recording head helps to achieve the improved data recording density.

The cartridge is inserted into a tape drive slot to process data. Two drives are contained in a cabinet about the size and shape of a two-drawer file -- a 60 percent savings in floor space over traditional tape drives whose tall glass fronts and spinning tape reels have become visual symbols of data processing.

Contributing to the 3480's small size are microprocessors that precisely control tape positioning during processing and eliminate the need for vacuum columns used in current tape units. This concept of replacing mechanics with electronics greatly contributes to improved reliability. In addition, this compact tape subsystem requires 60 percent less power and cooling than current IBM tape drives.

The rate at which data can be processed using the new tape is achieved by 18 recording tracks and a linear data recording density of about 38,000 bytes per inch -- six times that used in current IBM tape drives and the highest linear recording density of any IBM magnetic storage products.

Eighteen tracks of data can be processed by a thin-film recording head. The tape flies over the film head on a cushion of air, resulting in reduced wear to both the tape and head.

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New tape technologies, including a new error correction code, have significantly increased the reliability of the new unit. Laboratory tests showed the IBM 3480 tape unit exceeded design specifications of not more than one permanent error for every trillion characters read. This is a significant improvement in data reliability over traditional tape drives.

Operator productivity also has been improved. A new message display panel keeps the operator informed of each unit's status. Routine cleaning can take only one minute a week. In an IBM 3420 tape unit, for example, routine cleaning takes two to five minutes and must be done several times a day.

There are separate microprocessors in the 3480 control unit Model A22 and in each of the two tape drives in the Model B22 tape unit. A 512-kilobyte memory in the controller buffers the data as it is transferred. This reduces delays in the operations of the central processor normally caused by the start and stop actions of individual drives.

To make computer system storage management easier, a successor to IBM's current Hierarchical Storage Manager (HSM) software lets users copy data from disk storage to tape for backup, and also lets them move inactive data from disk to tape -- a function called "migration." The new Data Facility Hierarchical Storage Manager (DFHSM)-Version 2, developed in Tucson, lets users automatically manage the new IBM 3480 Magnetic Tape Subsystems and the IBM 3420 magnetic tape units, IBM disk drives, and mass storage devices in MVS/XA and MVS/370 environments.

The new IBM 3480 Magnetic Tape Subsystem attaches to IBM 308X, 303X, 4341, and 4381 processors that use the IBM MVS/XA and MVS/370 operating systems. The technology advancements implemented in the IBM 3480 form the basis for IBM's direction in magnetic tape development.

Purchase price of a typical IBM 3480 Magnetic Tape Subsystem configuration, consisting of one controller and eight drives, is \$237,910. The control unit is priced at \$65,430 and the tape unit sells for \$43,120.

IBM plans to make the 3480 generally available in the first quarter of 1985. Specific availability and delivery dates will be announced later this year. Supplies such as the new IBM Cartridge System Tape, storage racks, and transport carts for cartridges can be purchased through IBM's National Distribution Division.