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MEMOREX

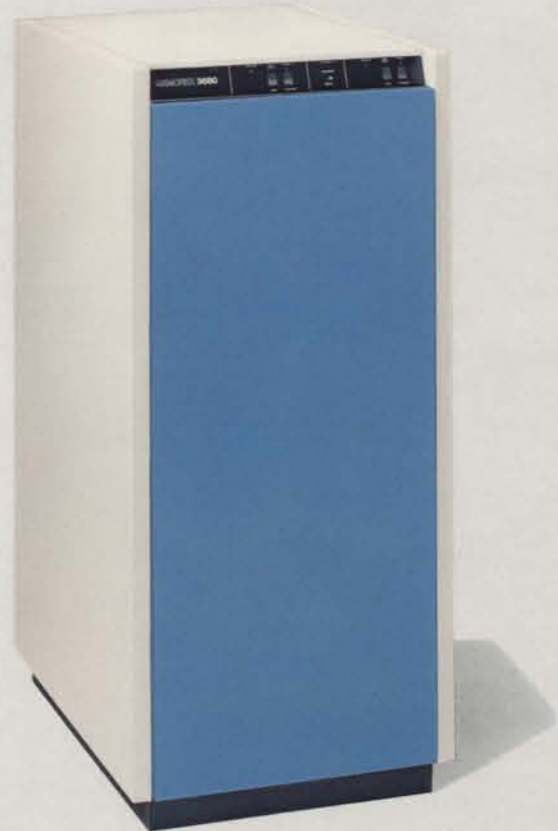
3680/3683 Product Specifications

MAY 1983

The Memorex 3680 Disc Storage Subsystem provides large capacity, high performance storage for medium- to large-scale IBM or IBM plug-compatible central processing units. The 3680 Subsystem is functionally equivalent to the IBM 3380 Disc Storage Subsystem and interfaces to the central processing unit via the block multiplexer channel and the Memorex 3888 Dual Director Storage Control Unit. The Memorex 3680 Subsystem offers increased throughput, improved reliability, availability and significantly reduced environmental cost.

The 3680 Subsystem comprises the Memorex 3888 Dual Director Storage Control Unit, the 3683 Dual Path String Controller, and the 3680 Disc Module. Each director of the 3888 can support up to 32 independent actuators with a maximum storage capacity of over 20 billion bytes. The 3683 interfaces the 3680 Disc Drive Module(s) to the Memorex 3888 and supports up to 16 actuators for a maximum storage capacity of 10.08 billion bytes. The user has the ability and flexibility to configure subsystems with capacities ranging from as little as 2.5 billion bytes to over 40 billion bytes.

The 3680 Subsystem provides superior performance and data availability through a number of value-added enhancements. These include extensive use of large-scale integrated circuits, microprocessor technology, and Maximum Availability Path Selection (MAPS). MAPS permits simultaneous input and output to any two actuators within a 3680 string. These enhancements, together with improved access times and data transfer rates, make the 3680 Subsystem the most cost-effective subsystems ever offered by Memorex.



3680



3683

3683 Product Specification Sheet

The Memorex 3683 Dual Path String Controller attaches directly to the Memorex 3888 Storage Control Unit. Each 3683 can support 4 to 16 actuators, accessing a maximum storage capacity of 10.08 billion bytes combined in 2 to 8 single-spindle 3680 disc storage files. The 3683 can communicate simultaneously with any two actuators within the string through the two independent string controller functions.

The 3683 incorporates, as a standard feature, Maximum Availability Path Selection (MAPS). MAPS permits the string controller function within the 3683 to transfer data, simultaneously, to or from any two actuators on the string. This feature, combined with Dual Path, a standard feature of the 3680, provides the user superior availability of the data stored on the string.

The design packaging of the 3683 ensures superior data availability and enhanced serviceability. The design of the 3683 significantly limits the number of shared components between the two string controller functions, dramatically reducing the potential for a component malfunction affecting both string controllers. The 3683 has a panel which allows the Memorex Customer Engineer to perform maintenance on one string controller without affecting the other. Utilization of LSI technology decreases the number of components within the 3683, thereby decreasing the potential for malfunctions. Serviceability is further enhanced through the utilization of microprocessors in each device in the subsystem. The microprocessors are capable of running self-test diagnostics concurrent with system operations.

The 3683 is compatible with all IBM software that supports 3380-type devices.

3683 Highlights

- Dual Path String Controller
- Supports 4 to 16 Actuators
- Microprocessor-based Architecture
- LSI Technology
- Software Compatibility

3680 Product Specification Sheet

The Memorex 3680 is a single-spindle disc storage file which provides a storage capacity of 1.26 billion bytes. The 3680 attaches directly to both paths of the Memorex 3683 Dual Path String Controller. A minimum of two and a maximum of eight 3680 spindles may be attached to one 3683. Beyond the basic string controller and two initial 3680 modules, additional storage capacity may be added in increments of one or more spindles. The capability to add capacity in single-spindle increments provides the user with the utmost flexibility in capacity and expansion planning.

Like the other components of the 3680 Subsystem, the Memorex 3680 incorporates microprocessors as part of its architecture. The 3680 has two independent microprocessors, one for each actuator. These microprocessors allow a Memorex Customer Engineer to perform maintenance on an individual actuator without impacting the availability of data stored on the other actuator.

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The 3680, as a fundamental part of its architecture, utilizes state-of-the-art semiconductor technology. The head disc assembly incorporates Memorex-developed advanced thin-film read/write heads and advanced thick-substrate media. Each module has a storage capacity of 1.26 billion bytes accessed by two independent actuators. Each actuator is capable of accessing half of the total data stored in the HDA (630 megabytes).

The design packaging of the 3680 ensures superior data availability and enhances reliability. The horizontal-axis of the 3680 supports the HDA at both ends, thereby enhancing stability and protecting data integrity. In addition, the 3680 HDA incorporates thick-substrate media, which provides additional stability and data integrity. The reliability of the data is enhanced by locating the HDA below heat-generating power supplies and power distribution units, thereby minimizing adverse environmental conditions.

Memorex provides an actuator electronics switch as a standard feature on the 3680 disc file. The switch allows the read/write logic associated with one actuator to be switched electronically to support the other actuator of the HDA in the event of a malfunction. This standard feature ensures access to critical data, even if a malfunction occurs in the read/write logic of one of the HDA's actuators.

3680 Highlights

- Dual Actuators/HDA
- Dual Data Path
- Single Spindle
- Actuator Electronics Switch

Specifications

Service Clearance

	Front	Rear	Right*	Left*
3683	30" (77 cm)	30" (77 cm)	0 (0)	0 (0)
3680	30" (77 cm)	30" (77 cm)	0 (0)	0 (0)

Dimensions

	Front	Side	Height	Weight
3683	22 1/4" (57 cm)	32" (82 cm)	51" (131 cm)	350 lbs (158 kg)
3680	20"*** (51 cm***)	32" (82 cm)	51" (131 cm)	625 lbs (283 kg)

Access Times

Minimum	3 ms
Average	16 ms
Maximum	30 ms

Latency

8.3 msec

Power Requirements

Power Requirements	60 Hz	50 Hz
Voltage	208/238 ± 10%	220/380 ± 10%
Phase	Three	Three
Branch Service	15 Amp	15 Amp
Frequency	60 Hz ± 0.5 Hz	50 Hz ± 0.5 Hz

* Access to sides required only during installation.

** Add 2 1/4" if last 3680 in a string.

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