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MEMOREX
THIN FILM
TECHNOLOGY SERIES

MEMOREX INTRODUCES DISC STORAGE SUBSYSTEM SERIES UTILIZING ADVANCED THIN-FILM TECHNOLOGY

SANTA CLARA, Calif., Sept. 8, 1982 -- Memorex Corporation today introduced the first members of an entirely new family of high-performance disc subsystems based on technologically advanced thin-film read/write heads developed by the company's Recording Technology Center.

Initial customer shipments of the first member of the new series, the 3690, have already been made in selected international markets where this subsystem will be sold. Shipment of the second announced member of the series, the 3680, will commence in the first quarter of 1983, with volume shipments of production units scheduled for the third quarter of 1983. Orders for the 3680 are being taken immediately. The Memorex 680, an OEM version of the Memorex 3680, also will be offered. Shipments of the OEM 680 are scheduled to commence at the same time as shipments of the 3680 to the end-user market.

Shipment of the 3690 makes Memorex the first independent supplier of plug-compatible disc storage subsystems to deliver production-level units utilizing internally developed and produced advanced-technology thin-film read/write heads.

The Memorex 3690 subsystem, which is compatible with the 3370, includes the 3690 Disc Storage Module and the 3693 Disc Storage and Controller Module. The 3690 contains a single head disc assembly (HDA) with a horizontal axis. It provides 571.3 megabytes of data storage, accessed by two independently addressable actuators, each capable of accessing half of the data storage space (285.6 MB). The data is organized on the disc in fixed blocks of 512 bytes each.

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The 3693 control unit contains all the interface, power sequencing and control circuits necessary to attach the subsystem to a Memorex 3696 storage control unit, a 3880, or to the integrated DASD adaptor of a 4331 series processing system. The Memorex 3693 also contains an HDA providing data storage space equal to that of the 3690. The units offer a data transfer rate of 1.86 MB per second, and an average access time of 20 milliseconds.

Use of LSI circuitry enhances the reliability of the subsystem and reduces its energy consumption. The horizontal axis of the HDA improves reliability of the subsystem and enables a single motor to be used to drive both the spindle and the efficient air-flow system, providing low heat generation and power consumption as well as fewer mechanical components.

The 3680 Disc Storage Subsystem, which is compatible with the 3380, is a large-capacity, fast-access disc subsystem designed to give users greater storage capacity, faster throughput and improved reliability, while requiring less overall floorspace than competitive products. Its lower profile design permits greater flexibility in computer room layout, and enhances visibility in the user's data center.

Besides utilizing internally developed and produced thin-film read/write heads, the 3680 subsystem features state-of-the-art, advanced particulate media developed by Memorex's Rigid Media and Components Division in Santa Clara, California. The 3680 media, which will feature a thick substrate, will be manufactured by Disc Media Incorporated at the Memorex facility in Westlake Village, California.

The Memorex 3680 subsystem has a storage capacity of 1.26 gigabytes per module, or a total of 10.08 gigabytes per eight-spindle string. Average access time is 16 milliseconds, and the data transfer rate is 3 MB per second.

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The Memorex 3680 subsystem offers four times the storage capacity of the Memorex 3650, and twice the capacity of the enhanced dual density Memorex 3652, while requiring less floorspace.

The minimum 3680 subsystem string is comprised of the 3888 Dual Director Storage Control Unit, the 3683 Dual Path String Controller and two 3680 Dual Actuator Disc Modules. Each 3680 module houses one HDA, and can be ordered in single increments once the minimum configuration has been met.

The 1.26 gigabyte 3680 is the only single-spindle product offered in its class. The unique single-spindle architecture of the 3680 will offer users greater configuration flexibility and the most cost-effective means of meeting their storage capacity requirements. In the 3380 marketplace, the ability to add data storage in increments of 1.26 GB is unique to the Memorex 3680.

A primary goal in the design of the 3680 was to create a subsystem offering quality, reliability and serviceability unmatched by any other disc subsystem in the marketplace today. In addition to on-line and stand-alone diagnostics, each device within the 3680 subsystem has a built-in microprocessor and is capable of having maintenance performed independent of all other devices within the subsystem -- thereby limiting the impact of diagnostics on subsystem throughput. Diagnostics are performed with a hand-held monitor which attaches directly to each individual subsystem component.

The 3680 subsystem's microprocessor diagnostics are complemented by remote assistance capability. The subsystem can interface to a telephone circuit by means of an RS-232 interface located within the 3888, facilitating remote analyses and diagnostics.

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All of the maintenance capabilities of the storage subsystem were designed to insure the highest degree of data availability.

The 3888 Dual Director Storage Control Unit consists of two independent directors which attach directly to the block multiplexer channels of IBM and IBM-compatible processors having a 3-megabyte data transfer rate. These include the 3031, 3032, 3033, 4341 Group 2, 3081 and 3083 processors. Processors supported with channels having 1.5 or 2 megabyte data transfer rates require a speed-matching buffer on the director attached to the channel. These include, in addition to the above processors, the S/370 158, 158-3, and S/370 168, 168-3 processors.

The 3683 Dual Path String Controller consists of two independent string controller functions or data paths that attach to directors within the 3888. Each 3683 data path has the ability to control all actuators within the string, via the Maximum Availability Path Selection (MAPS) feature. MAPS allows two simultaneous read/writes per string at the actuator level.

Each 3680 module within the subsystem attaches directly to both data paths of the 3683. A full string consists of eight 3680 spindles (16 actuators). A maximum of two strings -- consisting of two 3683s and 16 3680 spindles -- may be attached to one director of a 3888. The unique single-spindle architecture of the 3680 allows strings to be configured in odd, as well as even, numbers of spindles beyond the minimum configuration.

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List prices for the 3888 Dual Director Storage Control Unit are $78,790 purchase, $1,515 per month lease. List prices for the minimum storage configuration, consisting of a 3683 Dual Path String Controller and two 3680 Dual Actuator Disc Modules, are $116,050 purchase and $2,070 lease. Additional 3680 disc drives can be ordered in increments of one or more spindles. List prices for the 3680 when ordered in increments of two are $84,240 purchase, $1,500 lease, and, when ordered in single increments, $47,340 purchase, $840 lease. All prices are 36-month prices. Memorex is taking orders for the 3680 subsystem, effective immediately.

The 3690 and 3680 subsystems are the first in a series of thin-film products planned for introduction by Memorex for both the end-user and OEM markets.

Memorex, a subsidiary of the Burroughs Corporation, is an international company which develops, manufactures and markets computer peripheral equipment, magnetic recording media, and data communications equipment.

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