

# 3683

MEMOREX

MAPS  
String Controller





## Memorex 3683 MAPS String Controller



*The throughput enhancements incorporated into the 3683 MAPS string controller can mean faster response time for your users, your programs can run in less time, and you can run more jobs in the same amount of time.*

The Memorex<sup>®</sup> 3683 MAPS string controller is a unique component of the 3680 disc subsystem which incorporates the functional equivalent of the string controller logic of the IBM 3380-AA4 device plus the Memorex exclusive throughput enhancement feature MAPS (Maximum Availability Path Selection).

### Standard Features

#### • Configuration Flexibility

Each 3683 MAPS string controller can control from a minimum of 2 modules (4 actuators) to a maximum of 8 3680 modules (16 actuators) for a string capacity of 10.08 gigabytes. The unique single spindle design of the 3680 allows the 3683 to control the exact number of spindles you require in a string including odd numbers.

#### • Superior Throughput (MAPS)

Each 3683 incorporates the throughput improvement features inherent in the MAPS system. MAPS consists of two very important performance enhancements; exclusive improved protocols, and an efficient dual porting system. The enhanced protocol reduces the overhead associated with the transfer of command and communications dialogue between the microprocessors in each of the dual paths of the 3683 and the microprocessors in the dual directors of the 3888. MAPS also provides the ability to access any two actuators in a string simultaneously, even if they are on the same spindle. This ability to simultaneously transfer data from any two actuators in a string is accomplished by combining the dual port feature contained in each 3680 actuator with the intelligence inherent in the microprocessors contained in each of the dual 3683 string controllers.

MAPS insures that all 15 actuators in a string are available for a second Input/Output operation. This compares to the IBM dynamic pathing selection (DPS) system which only allows the second Input/Output operation to go to 12 of the remaining 15 actuators.

The MAPS throughput improvements will be further enhanced with the implementation of the Dynamic Device Reconnection (DDR) function of the IBM

Extended Architecture (XA) Operating System. MAPS will allow any 2 actuators within the string to reconnect to the 3683 under XA.

The throughput enhancements incorporated into MAPS may mean faster response time for your users, your programs may run in less time, and possibly you could run more jobs in the same amount of time. These throughput improvements could mean a real savings in departmental costs by delaying a processor upgrade.

#### • Outstanding Reliability

The 3683 MAPS string controller incorporates LSI circuitry, independently powered dual string controllers, improved reliability testing, and a unique separate packaging design for improved reliability. The 3683 is manufactured utilizing an advanced statistical quality control technique and the use of only fully burned-in components.

The dual string controllers allow full access to your disc subsystem even if a failure occurs in one of the string controllers since they are independently powered.

#### • Improved Maintainability

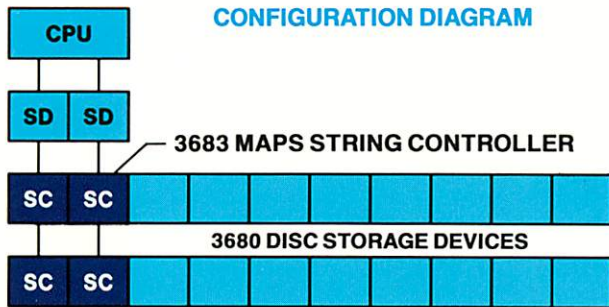
The 3683 incorporates a microprocessor based architecture which is capable of running diagnostics on each of the string controllers with minimal systems impact. A Memorex Customer Engineer can work on one of the string controllers without impacting the other. The *Portable Maintenance Terminal* can then be utilized with each of the microprocessors in each string to interpret diagnostic test results.

The Memorex Customer Engineer has subsystem diagnostics which can be run on the 3888 Storage Control unit or on the central processing unit (in a non-dedicated running mode).

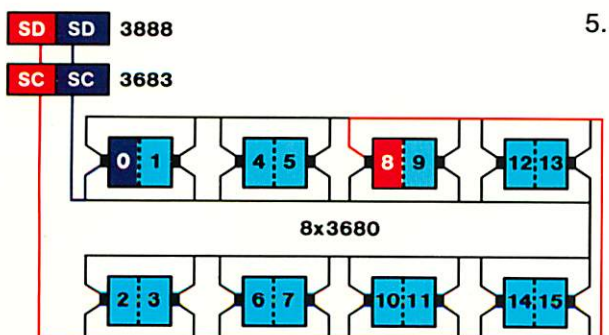
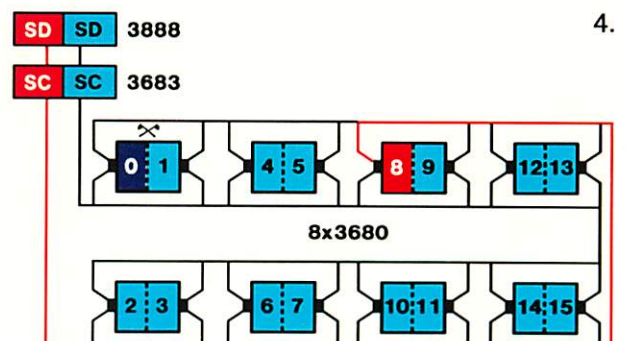
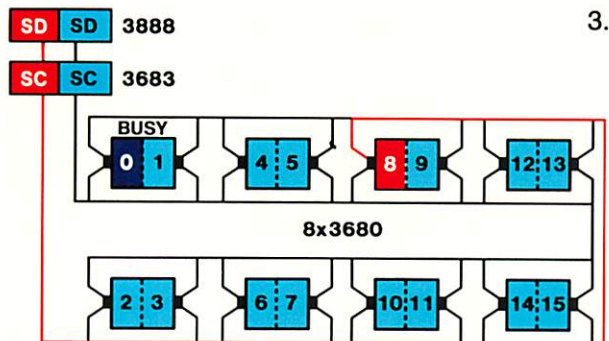
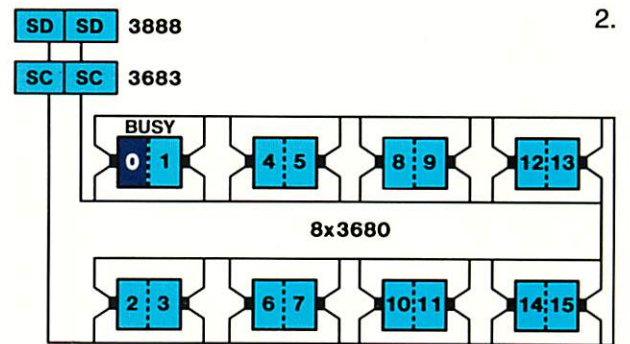
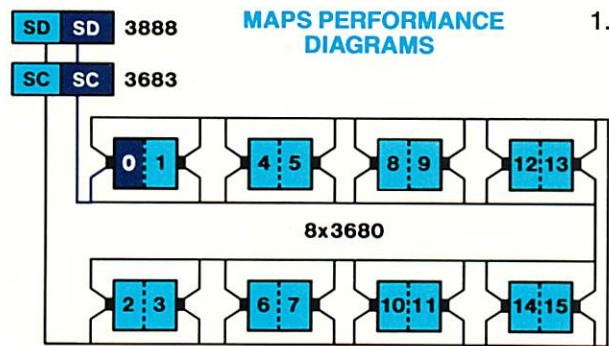
#### • Space Management

The 3683 exclusive individual packaging together with the unique 3680 single spindle drive provides a subsystem which requires less computer room floor space than the 3380.





The sequence below shows the benefit that MAPS provides when there is a second Input/Output operation to the 3680 subsystem.



MAPS insures that all 15 actuators in a string are available for a second Input/Output operation. This compares to the IBM dynamic pathing selection (DPS) system which only allows the second Input/Output operation to go to 12 of the remaining 15 actuators.

3683 Specifications:

Dimensions

Height: 51 inches (129.5 cm)  
Width (no side cover) 20 inches (50.8 cm)  
Width (one side cover) 22.25 inches (56.5 cm)  
Depth: 32 inches (81.3 cm)  
Weight: 350 lbs (158.7 kg)

Service Clearances

Front: 30 inches (76.2 cm)  
Rear: 30 inches (76.2 cm)  
Sides:  
    Right: 30 inches (76.2 cm)  
    Left: 30 inches (76.2 cm)

Cable Lengths

AC Power           4.57 m (15 ft) for 60 Hz;  
                      4.57 m (15 ft) and 7.62 m (25 ft) for  
                      50 Hz  
EPO                45.7 m (150 ft) maximum  
CTLI               61 m (200 ft) maximum  
Remote Switch   45.7 m (150 ft) maximum

Environmental Conditions

Operating  
Temperature: 60° to 90°F (16° to 32°C)  
Relative Humidity: 20% to 80%  
Maximum Wet Bulb: 78°F (26°C)  
Temperature Variation: 5°F/hour (2.7°C/hour)  
Non-Operating  
Temperature: 50° to 120°F (10° to 49° C)  
Relative Humidity: 10% to 90%  
Maximum Wet Bulb: 78°F (26°C)  
Temperature Variation: no condensation

Power Requirements

	60Hz	50Hz
Voltage	208/230 ± 10%	200/380/400/415 ± 10%
Frequency	60 ± .5 Hz	50 ± .5 Hz
Phase	Three phase	Three phase
Branch service	60 amperes	60 ampered

Maximum Heat Dissipation

3800 BTU

Power

1.2 KVA

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