

5/79

MEMOREX

**3670 and 3675
Disc Storage Modules**

General

The Memorex 3670 Disc Storage Subsystem is a plug-compatible replacement for the IBM 3330 Disc Storage Facility on the IBM System/370, 3031, 3032, and 3033 processor complexes or compatible systems. With the optional 2860 Selector Channel Attachment feature all of the performance and functional capability of the 3670 become available to large IBM System/360 systems running under OS MFT/MVT. Significant features, standard on the 3670, include Rotational Position Sensing, Multiple Requesting, and Command Retry.

The Memorex 3670 Disc Storage Subsystem may be comprised of a 3672 Storage Control Unit, from one to four 3673 Disc Controllers, and from one to sixteen 3670 and/or 3675 Disc Drive Modules. Using the 3672 Storage Control Unit, a maximum subsystem capacity of over 6.4 billion bytes may be achieved.

Additionally, the Memorex 3673 Disc Controller allows the attachment of 3670 and/or 3675 Disc Drive Modules to the IBM integrated 3330 attachments on the System/370 Models 125, 135, 138, 145, 148, 158, and 168.

With the optional Multiple Channel Switch and String Switch features, the 3670 Disc Storage Subsystem may be accessed by alternate channels and/or control units from a single processor or shared by multiple processors.

The 3770 Disc Cache memory is available for the 3670 or 3675. The 3770 is transparent to the system. It is placed at the head of the disc string and under the control of a microprocessor allows access to frequently used data tracks in approximately 2 milliseconds. An opportunity for significant performance improvements is available in appropriate applications by utilizing this industry first!

Description

The Memorex 3670/75 Disc Storage Modules are large capacity, high performance, direct access storage devices. In conjunction with the Memorex 3673 Disc Controller, they provide capacities of 200 and 400 MB of on-line storage capacity per module. The 3670 is fully compatible with the IBM 3330 Model 1 and the 3675 is fully compatible with the IBM 3330 Model 11.

The Memorex Disc Storage Modules consist of two independent disc drives. Recording is pack and data compatible with the appropriate model of IBM 3330. Packs are removable and may be freely interchanged between 3670's and IBM 3330 Model 1's or 3675's and IBM 3330 Model 11's.

A linear "voice coil" mechanism provides access to any cylinder. A servo head is used to position and lock the carriage on the desired cylinder. Once this is achieved, any data head is electronically selected, and the data is recorded or retrieved from the data track.

Optional Intelligent Dual Interface (IDI) feature is a Memorex exclusive for dynamic redundancy which will usually result in improved performance. IDI resolves contention at the head of string by allowing two simultaneous read/write operations on each string. IDI requires Dual Port Feature in the Disc Storage Module and Intelligent Dual Interface in each of two connected 3673 String Controllers.



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3670 and 3675 Disc Storage Modules Features

Standard

Two operator control panels, one per drive, provide detailed information on drive status and function.

Compact packaging allows for installation in significantly less floor space with a 13" lower height than equivalent storage devices.

Pack loading height is the same for both drives in the module (35"), which is optimum from a human engineering standpoint.

A removable device designation plug enables the user to change the logical device address of each drive in the storage subsystem.

Rotational Position Sensing allows the control unit and channel to disconnect during search time, thus increasing control unit and channel availability and system throughput.

Write Format Release: Improves performance by allowing the 3675 to disconnect from the Storage Control Unit during the erase operation at the end of a format write command chain (Write Count, Key and Data).

The 3675 and Memorex Mark XI Disc Pack are provided with a mechanical interlock compatible with the IBM 3333/3330 and 3336 Model 11 Disc Pack, which prevents the inadvertent mounting of Mark X (100 million byte capacity) packs on 3675 Disc Drive Modules or Mark XI (200 million byte capacity) packs on 3670 Disc Drive Modules.

Optional

Dual port feature is available on the 3670/75 for use only as a part of Intelligent Dual Interface (IDI) in conjunction with two 3673 string controllers, both featured with the IDI feature. Strings of Drives with IDI have dynamic redundancy and will usually improve system performance because two simultaneous read or write operations can be performed on each string. IDI resolves contention for disc strings by using intelligence at the point of contention to share the work load between the two data paths.

Field conversion of the 3670 to 3675 Disc Drive Module is available.

3670/75 Disc Storage Modules Highlights

Disc Pack Configuration

10 discs, 19 recording surfaces, 404 + 7 (3670) or 808 + 7 (3675) spare tracks per recording surface.

Storage Capacity

3670

100,018,280 bytes/drive
200,365,560 bytes/module

3675

200,036,560 bytes/drive
400,073,120 bytes/module

Data Transfer Rate

806,000 bytes/second

Rotational Speed

3600 RPM

Access Time

50 ms—maximum
27 ms—average
7 ms—minimum

Start Time

20 seconds

Stop Time

20 seconds

Data Recording Format

3670 is compatible with IBM 3330-1.
3675 is compatible with IBM 3330-11.

System Interface

Attached to Memorex 3673 Disc Controller.

Physical Dimensions

44" wide x 47" high x 32" deep
(module).

Weight

1,100 pounds (module).

Operating Environment

60°-90°F, 20%-80% Relative Humidity.

BTU Output

8,900 BTU/hour (module)

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