

MEMOREX

3652 Disc Storage Subsystem

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General

The Memorex 3652 Disc Storage Subsystem is a high-speed, direct-access, double-capacity 3650 (317.5 MB) equivalent for installation on System/370 models 158 and 168, System 3030, System 4341, Amdahl 470/V Series, and other equivalent processors.

The Memorex 3652 Disc Storage Subsystem consists of three basic models. Each of these contains two spindles and two head disc assemblies of 635 megabyte capacity (1,270 megabytes per module), with data transfer rates of 1.198 megabytes per second.

Each 3652 configuration must include the 3655 Direct Access Storage Module and Controller. The 3655 is the primary controller for a string of 3652 modules and provides both logic and power for the attachment of up to three 3652 units providing up to 5 billion bytes per string. The Memorex 3656 Direct Access Storage Module and Alternate Controller may be substituted for the last 3652 on a string and is required for the Intelligent Dual Interface. The 3656 assumes the control functions of the 3655 upon the setting of a manual switch on the 3656, should the 3655 Controller become unavailable or provides the alternate path for the Intelligent Dual Interface feature.

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Description

The Memorex Intelligent Dual Interface (IDI) is standard on the 3652 Disc Storage Subsystem. IDI functionally includes dual port and string switch features; the IDI performs these functions and provides two data paths to each drive of the string. Under IDI, the 3655 and 3656 are accessed via two 3674 storage control units for simultaneous read or write operations on one drive string. The 3656 handles commands if the 3655 is busy.

Each module of the 3652 models may be equipped with an optional 2,288,280 bytes of fixed head capability per spindle, providing 1,144,140 bytes of zero seek-time storage for each logical volume (two logical volumes per spindle).

From the system standpoint, the Memorex 3652 Disc Storage Subsystem is compatible with the Memorex 3650. The Memorex 3652 Subsystem is supported on the Memorex 3674 Storage Control Unit only. In large configurations, the Memorex 3652 Subsystem may be expanded via the Memorex 3674 Storage Control Unit to include up to four 3655 Storage Modules and controllers and from one to twelve 3652 Storage Modules.





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3652 Disc Storage Subsystem Standard Features

Full Track Read allows data on one track to be read from one command, significantly enhancing spindle performance for utility functions as dump/restore. Full track read is supported in both 3650 and 3675 compatibility modes.

For conversion convenience, each of the two spindles of the Memorex 3652 module may be independently operated in Memorex 3650 compatibility mode (two 317.5 megabyte logical volumes per spindle) or in Memorex 3675 compatibility mode (two 200 megabyte logical volumes per 3652). The formats are specified on a drive-by-drive basis and are either factory or field installable.

The **Error Correction** feature on the Memorex 3652 detects single error bursts of up to ten bits in length, with single error bursts of up to four bits being corrected.

Command Retry, standard on the Memorex 3652, enables the storage control unit and channel to recover from certain subsystem errors, thereby minimizing system overhead.

Rotational Position Sensing, allows for channel disconnect during most of the rotational latency period, giving greater channel availability.

Read Only Switch, when enabled this switch prevents writing or erasure of previously recorded data.

The **Write Format Release** on the Memorex 3652 enhances subsystem performance by permitting a single spindle to continue an erase from the end of a formatted write while freeing the balance of the subsystem for other functions.

3652 Disc Storage Subsystem Specifications

Capacity

3650 Compatibility: 635 MB
(2 logical volumes/spindle)
3675 Compatibility: 400 MB
(2 logical volumes/spindle)
3650 Compatible Mode: 2,288 MB
fixed head/drive

Memorex Compatibility Mode:
1,484 MB fixed head/drive
Physical Track: 19,069 bytes

Data Transfer Rate

1,198K bytes/sec

Rotational Speed

3,600 RPM

Average Rotational Delay

8.4 ms

Access Time/Spindle

45 ms— maximum
22 ms— average
6 ms— minimum
15 ms— average/logical volume

Physical Dimensions

3655: 117 cm (46.0 in) high x 113 cm
(45.4 in) wide x 81 cm (32.0 in) deep
3652/3656: 117 cm (46.0 in) high
x 110 cm (43.3 in) wide x 81 cm
(32.0 in) deep

Weight

3655: 476 kg (1,050 lbs)
3652/3656: 431 kg (950 lbs)

Operating Environment

Temperature: 16 to 32° C
(60 to 90° F)
Relative Humidity: 20 to 80 percent

Maximum Heat Dissipation

3652: 1,790 watts (6,110 BTU/hr)
3655/3656: 2,142 watts (7,310
BTU/hr)

Power Requirements

3652: 208/230+/-10%, 60+/-0.5 Hz,
3 phase, 60 amp
3655/3656: 220/380+/-10%
50+/-0.5 Hz, 3 phase, 60 amp

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