

Symmetrix

5200-3
ICDA®

Entry-Level Capacity With Advanced Mainframe Functionality
and Performance

EMC²



Symmetrix 5200-3

Leading Edge Performance and Connectivity

Symmetrix™ 5200-3 model Integrated Cached Disk Array (ICDA®) storage systems give mainframe users entry-level capacities with the full performance, availability, and cost-of-ownership advantages of the Symmetrix ICDA platform. Symmetrix 5200-3 solutions offer disk storage capacities of 45GB to 90GB in only 6.1 square feet of floor space. They also provide access to capabilities such as Enterprise System Connection (ESCON) compatibility and powerful disaster recovery features.

The Value of Performance Throughout the Enterprise

The Symmetrix 5200-3 builds on the proven business advantages of the ICDA platform. Its industry-leading performance and availability features increase throughput, extend on-line processing hours, and aid in turning information systems into a true business advantage. By delivering

faster data access, this sophisticated storage solution maximizes the return on your entire mainframe system investment. By improving system-wide performance, it can also help postpone expensive CPU upgrades and let you benefit from falling processor costs.

Up to 4,096MB of cache memory are used to provide access to these high storage densities at electronic, not mechanical speeds. Large cache capacities, EMC's high-speed cache search algorithms, a dual bus architecture and device level buffers work together to provide industry-leading storage performance.

Keeping Data Available 24 Hours a Day

On-line applications and 24-hour computing demands are making data availability a more critical part of every mainframe computing strategy. The Symmetrix 5200-3 provides a wide range of features to meet your need for constant data access. Consistent availability is assured through redundant components, non-disruptive component replacement and EMC's unique full-system battery backup. The Symmetrix 5200-3 incorporates an Integrated Service Processor which



instantaneously to a remote Symmetrix subsystem transparent to CPU operation for an immediate off-site copy of data.

Symmetrix Backup/Restore Facility (SBRF) provides the capability to migrate data between the Symmetrix unit and backup systems without interrupting on-line data access.

A Member of a Powerful Family

Symmetrix 5200-3 solutions are part of the full Symmetrix ICDA Series. The Symmetrix ICDA Series offers all mainframe users the ability to improve the performance, availability and cost-effectiveness of storing any amount of on-line data. The scalability of performance, capacity, and availability within the Symmetrix Series gives users flexibility in meeting their particular storage needs.

Symmetrix 5200-3 Overview

- From 45GB to 90GB of cached DASD storage in only 6.1 square feet of floor space.
- Up to 4,096MB of cache storage
- Up to 16 channel interfaces (parallel or serial).
- Up to four concurrent I/O operations.
- ESCON compatibility.

- Compatible with all IBM and compatible mainframe processors. Emulation of IBM 3990/3390 and 3380 storage products.

- Compatible with a wide range of operating systems, including MVS/ESA, VM/ESA, VSE/ESA, ACP/TPF, MVT/VSE, VM/SP, UTS, VM/HPO, VSE/SP, PICK, MVS/SP, VM/XA, MVS/XA.

- Support of IBM Extended Limited Lock Facility (ELLF).


Symmetrix 5200-3

Availability Features

Dynamic Sparing is an option which automatically reallocates data to a spare standby disk when a predetermined threshold level of temporary errors has been reached. This operation is transparent to the user and provides higher levels of data availability without reducing useful storage capacity.

Mirroring creates two copies of all data on separate HDAs, and provides an option for maximum data availability without performance degradation even in the event of HDA failures.

Full System Non-volatility is provided by a battery backup system which takes over in the event of an external power failure. Data in



constantly monitors data integrity and subsystem functionality. The service processor can correct potential problems without service intervention. When an unusual situation is detected, EMC's Auto-Call feature contacts EMC's Remote Support Center for on-line diagnosis and resolution. Optional dynamic sparing and mirroring of data provide multiple choices for data redundancy.

Symmetrix Remote Data Facility (SRDF) allows the Symmetrix 5200-3 to copy data on-line and



cache is destaged to disk, and then an orderly system shut down is initiated. As a result, caching performance can be achieved without the risk of data loss due to power outages.

Redundant Components include disk adapters, channel adapters and power supplies. They provide continued availability to all data in the event of a component failure.

Non-disruptive Component Replacement allows key components to be serviced without downtime to the system, keeping data on-line and available to users.

Proactive Maintenance Features such as disk and cache error detection and correction procedures regularly check media and cache integrity bit by bit for errors.

Auto-Call automatically generates a phone call from the Symmetrix system to EMC's Remote Support Center to alert service personnel of a potential problem for quick

resolution 24 hours a day, 365 days a year. The result is faster resolution of service issues, and higher total availability.

**Symmetrix 5200-3
Performance Features**

Large Cache Capacities improve cache hit rates for faster data access.

100% Write Caching overcomes the slow performance of rotating disk by writing all data into cache.

Intelligent Caching Algorithms improve performance by searching even the largest cache sizes quickly and accurately.

Device Level Buffers move data at electronic speeds within the Symmetrix unit, increasing internal transfer rates and providing better overall system performance.

**Symmetrix 5200-3
Flexibility Features**

Hyper-Volume Extension gives users the cost advantages of higher capacity HDAs while retaining the performance characteristics of smaller volume sizes.

Channel Extension Support provides for on-line access to data over remote distances.

Multi-Subsystem Imaging allows the Symmetrix to appear as several disk subsystems to the CPU, giving users greater configuration flexibility.

**Symmetrix 5200-3 Cost of
Ownership Features**

Small form factor HDAs reduce power requirements and heat dissipation to reduce environmental costs.

Integrated controller and disk design reduces requirements for valuable floor space.

Twenty-Four Month Warranty reduces maintenance costs.



Configuration Data

Model	Disk Capacity	Physical Volumes*	Minimum Cache**	Channels***	
				Minimum	Maximum
5200-3016	45GB	16	512MB	4	16
5200-3024	68GB	24	768MB	4	16
5200-3032	90GB	32	1,024MB	4	16

*Hyper-Volume Extension can increase the number of logical user volumes to 96 maximum.

**Maximum cache for all models is 4,096MB.

***Mixed Serial/Parallel channel configurations are supported.

Disk Emulation

	3390-3	3390-2	3390-1	3380-K
MB/Volume	2,838	1,892	946	1,890
Bytes/Track	56,664	56,664	56,664	47,476
Bytes/Cylinder	849,960	849,960	849,960	712,140
Cylinders/Volume	3,339	2,226	1,113	2,655
Platter Size	5.25 in.	5.25 in.	5.25 in.	5.25 in.

Storage Control Emulation

Models Emulated	3990-2, 3990-3
Channel Speeds	1.0 to 1.5, 3.0, 4.5MB/Second (Parallel) 10, 17MB/Second (Serial)

Physical Data

Dimensions			Service Clearance		
Depth	36.40 in	92.50 cm	Front	48.0 in	122.0 cm
Width	24.25 in	61.60 cm	Rear	36.0 in	91.5 cm
Height	73.62 in	187.0 cm			
Weight					
Model 5200-3016	1,221 lbs	555 kg			
Model 5200-3024	1,301 lbs	591 kg			
Model 5200-3032	1,381 lbs	628 kg			

Environmental Data

Operating temperature	59° - 90°F	15° - 32°C
Operating altitude (max.)	8,000 ft	2,500 m
Humidity		
Operating	10% - 80% non-condensing	
Non-operating	5% - 99%	

Power and Cooling Data

	3016	3024	3032
Power Consumption*(KVA)	1.96	2.30	2.65
Heat Dissipation*(Btu)	6,690	7,850	9,000

* Represents maximum figures for each configuration.

Power Specifications

	North American	International
Input Voltage	180 - 264 VAC	Country Specific
Frequency	50/60 Hertz, Single Phase	Country Specific
Circuit Breaker Required	30 Amperes	Country Specific
Power Connector x 2	Russellstoll 3750	Country Specific
User Connector x2	Russellstoll 3933	Country Specific
Auto-Call Modem	110 Volts, 60 Hertz, Nema 5-15R	Country Specific

Product specifications are subject to change without notice.

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The Symmetrix Advantage

Performance	Availability	Flexibility	Cost-of-Ownership
100% Write Caching	Full System Non-Volatility	Hyper-Volume Extension	Small Footprint
Intelligent Cache Algorithms	Redundant Components	Easy Data Migration	Low Power Requirements
Device-Level Buffers	Mirroring	Multi-Subsystem Imaging	Low Cooling Requirements
PermaCache	Dynamic Sparring	Channel Extension Support	24-month Warranty
	Cache and Disk Error Detection and Correction		
	Remote Support Facility		
	Symmetrix Remote Data Facility		
	Symmetrix Backup/Restore Facility		

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