

EMC Symmetrix DMX800

The EMC® Symmetrix® DMX800 is a modular rack-mountable storage system that can be configured with up to 120 2Gb/s high-performance Fibre Channel disk drives providing a maximum raw capacity of over 35 TB. The 8-slot Direct Matrix backplane accommodates configurations of two global memory directors, two or four channel I/O directors, and two disk I/O directors.

System Throughput

The Symmetrix Direct Matrix Architecture® provides dedicated, non-blocking interconnects between I/O directors and global memory regions. With up to 32 dedicated data paths operating at 500 MB/s, the Direct Matrix delivers virtually unrestricted concurrent I/O throughput. A separate low-latency message matrix supports inter-processor communications between processors for maximum efficiency.

DMX data paths	16-32	8 per I/O Director, 16 per Global Memory Director
DMX data bandwidth	8-16 GB/s	
DMX message bandwidth	0.6-1.2 GB/s	
PowerPC CPUs	16-24	1GHz
Global Memory	4-64 GB	Available in 2, 4, 8, 16 and 32 GB increments
Concurrent Memory transfers	8	4 per Global Memory Director

Connectivity

The Symmetrix DMX800 supports up to four (4) high-speed Channel I/O Directors with four SMP-driven pipeline slices each. Optimized hardware logic and data protection encoding ensures end-to-end data integrity with automated channel failover for maximum availability and load balancing.

Symmetrix DMX systems support all popular hardware and operating system platforms, storage area networks (SANs), and high-availability cluster environments.

2Gb/s Fibre Channel host/SAN ports	8-16	8 per Fibre Channel Director
2Gb/s Fibre Channel remote replication ports	2-8	1-4 per Fibre Channel Director
1Gb/s Ethernet iSCSI ports	2-4	1-4 per Multi-protocol Channel Director
1Gb/s Ethernet remote replication ports	2-4	1-4 per Multi-protocol Channel Director
2Gb/s FICON host ports	2-4	1-4 per Multi-protocol Channel Director

Mixed combinations of the above port types depend upon configuration. Refer to the EMC Support Matrix on EMC.com or contact your local EMC sales representative for specific configuration support.

Disk Drives & Drive Connectivity

The Symmetrix DMX800 disk drive infrastructure is architected with the latest 2Gb/s dual-ported Fibre Channel disk drives, each supported by two independent disk I/O directors with automatic failover and fault isolation.

	Min Capacity	Max Capacity	
Disk Directors	2	2	8 ports per Director
Disk Channels	8	16	Each drive supported by 2 channels
2GB/s FC Disk Drives	8	120	
Drives per Channel Pair	15	15	

Available Drives:

	73 GB	73 GB	146 GB	300 GB
Capacity	73 GB	73 GB	146 GB	300 GB
Rotational Speed	10,000 rpm	15,000 rpm	10,000 rpm	10,000 rpm
Interface	2Gb/s FC	2Gb/s FC	2Gb/s FC	2Gb/s FC
Internal data rate	475-841 Mb/s	609-891 Mb/s	475-841 Mb/s	475-841 Mb/s
Average access time (read/write)	4.9/5.5 ms	3.8/4.1 ms	4.9/5.5 ms	4.9/5.5 ms
Raw Capacity	73.3 GB	73.3 GB	146.8 GB	300.0 GB
Formatted capacity – open systems	73.10 GB	73.10 GB	146.00 GB	299.32 GB
Formatted capacity – mainframe	72.17 GB	72.17 GB	144.60 GB	295.71 GB
Formatted capacity – iSeries	68.71 GB	68.71 GB	137.42 GB	n/a

Data Protection Options

RAID 0: Data striped across two to eight hypervolumes

RAID 1: Mirrored pair of two hypervolumes

RAID 1/0: Data striped across four mirrored pairs of hypervolumes

RAID 5: Data striped on four or eight hypervolumes (with rotating parity)

Parity RAID: Data volumes on three or seven hypervolumes with dedicated parity hypervolume

Configurable global hot-spare pool

Symmetrix DMX systems can be integral elements of a comprehensive information lifecycle management strategy—a strategy that helps your enterprise attain the maximum value from its information, at the lowest TCO, at every point in the information lifecycle. Information lifecycle management maps the right service level to the right application at the right cost—at the right time.



System Capacities

	73 GB Drives		146 GB Drives		300 GB Drives	
	Min. Capacity (GB)	Max. Capacity (GB)	Min. Capacity (GB)	Max. Capacity (GB)	Min. Capacity (GB)	Max. Capacity (GB)
Number of Disks	8	120	8	120	8	120
Raw Capacity						
Open	585	8,772	1,168	17,520	2,394	35,918
Mainframe	577	8,660	1,157	17,352	2,365	35,484
Mirrored Capacity						
Open	292	4,386	584	8,760	1,197	17,959
Mainframe	289	4,330	578	8,676	1,182	17,742
Parity 3+1 Capacity						
Open	439	6,579	876	13,140	1,795	26,938
Mainframe	433	6,495	868	13,014	1,774	26,613
Parity 7+1 Capacity						
Open	512	7,675	1,022	15,330	2,095	31,428
Mainframe	505	7,578	1,012	15,183	2,069	31,049

Configurations with mixed drive capacities and speeds are allowed depending upon configuration.

12 GB of total capacity will be reserved for internal Symmetrix file system use.

All capacities are based on 1 GB = 1,000,000,000 bytes.

Actual usable capacity may vary depending upon operating system.

Disk Emulation

DMX800	Open Systems	3380K	3390-1	3390-2	3390-3	3390-9	3390-27
MB/Volume	30,720	1,891	946	1,892	2,838	8,514	27,845
Bytes/Track	32,768	47,476	56,664	56,664	56,664	56,664	56,664
Bytes/Cylinder	491,520	712,140	849,960	849,960	849,960	849,960	849,960
Cylinders/Volume	65,536	2,655	1,113	2,226	3,339	10,017	32,760

Available Software*

The Engenuity™ operating environment delivers the highest levels of performance and systems and data integrity, while providing a foundation for storage applications such as the TimeFinder™ and SRDF® families of local and remote replication.

Platform Software

AutoSwap
 Catalog Solution
 Double Checksum
 InfoMover
 Enterprise Storage Platform (ESP)
 Performance Essential
 ResourcePak for TPF
 ResourcePak for Windows
 SRDF/Synchronous
 SRDF/Asynchronous
 SRDF/Star
 SRDF/Data Mobility
 SRDF/Automated Replication
 SRDF/Consistency Groups
 SRDF/Cluster Enabler for MSCS
 SRDF/Cluster Enabler for VCS
 SRDF/Automated Availability Manager
 SRDF/Host Component
 SRDF/Mode Change
 SRDF/Adaptive Copy
 COMPAV/MA
 Open Replicator for Symmetrix
 ResourcePak Base for OS/390 and z/OS
 ResourcePak Extended for OS/390 and z/OS
 Data Relocation Utility

TimeFinder/Clones
 TimeFinder/Mirror
 TimeFinder/Snap
 TimeFinder/Consistency Groups
 TimeFinder/Exchange Integration Module
 TimeFinder/SQL Integration Module
 VSAM Assist
 TPF Controls for SRDF
 TPF Controls for TimeFinder
 CopyPoint for OS/400
 CopyCross
 EMC Compatible Peer (providing IBM PPRC function)
 EMC Compatible Extended (providing IBM XRC function)

Information Management Software

Replication Manager/Remote (SDMM)
 Replication Manager/Local (ERM)
 EMC Data Manger (EDM)
 EMC Legato Automated Availability Manager

ControlCenter Storage Management Software

Storage Device Management
 Symmetrix Manager
 Symmetrix Optimizer
 SRDF/TimeFinder Manager for OS/400

SRM Monitoring and Reporting
 StorageScope
 StorageScope File Level Reporter
 Workload Analyzer

SRM Planning and Provisioning
 SAN Manager
 SAN Advisor
 Automated Resource Manager

Infrastructure Software

PowerPath

* Contact your EMC sales representative for software license model numbers, prerequisites, and additional information.

Physical & Cooling Specifications

Height**	Width***	Depth****	Front Service Area	Rear Service Area	Weight	Power	Cooling
(in/cm)	(in/cm)	(in/cm)	(in/cm)	(in/cm)	(lb/kg)	(kVA)	(Btu/hr)
75.0/190.5	24.0/61.0	41.9/106.4	48.0/122.0	48.0/122.0	1,596/723.9	4.46	15,203

All dimensions are cabinet/enclosure size without shipping brackets, stabilizers, or sound mufflers. Weight, power, and cooling are maximum for a full configuration.

** An additional 18 in. (45.7 cm) is required for ceiling/top clearance.

*** An additional 18 in. (45.7 cm) is required for left-side clearance and 28 in. (71.1 cm) for right-side clearance.

**** Maximum depth in EMC cabinet. Also mountable in qualified racks 36.0 in. (91.4 cm) deep.

Power Specifications

Dual main and auxiliary power connections
 2N power supply redundancy for each component
 Modular power zones with two to six power modules

	North America	International
Input Voltage (VAC)	200-240, single phase	200-240, single phase
Frequency (Hz)	47-63	47-63
Circuit Breaker (Amps), recommended	30	30
Power Drops	2	2
Power Connector	(2) L630P	Country Specific
User Connector	(2) L630R	Country Specific

Environmental Specifications (operating)

Temperature (°F/°C)	50-90°F/10-32°C
Altitude (ft/m), max.	8,000/2,500
Humidity (%), non-condensing	20-80
Raised Floor	Not required



EMC Corporation

Hopkinton
 Massachusetts
 01748-9103
 1-508-435-1000
 In North America 1-866-464-7381

EMC², EMC, EMC ControlCenter, Direct Matrix Architecture, PowerPath, ResourcePak, SRDF, Symmetrix, TimeFinder, and where information lives are registered trademarks and Automated Resource Manager, CopyCross, EDM, SAN Advisor, SAN Manager, StorageScope, InfoMover, SDMS, and Symmetrix DMX are trademarks of EMC Corporation. Other trademarks are the property of their respective owners. All specifications are subject to change without prior notice.

© Copyright 2002, 2005 EMC Corporation.
 All rights reserved. Published in the USA. 04/05

Specification Sheet
 C1007.9