

EMC CLARiiON FC4700 Networked Storage System

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Specifications

RAID Levels

- RAID 0: Data striped across three to 16 drives
- RAID 1: Mirrored pairs of two drives
- RAID 1/0: Data mirrored, then striped across four to 16 drives
- RAID 3: Independent data access on five or nine drives (with dedicated parity disk)
- RAID 5: Independent data access on three to 16 drives (with striped parity)
- Any combination of these RAID levels can exist on a single FC4700
- RAID stripe depth configurable to 4, 16, 64, 128, or 256 sectors per disk
- Rebuild priority tuning: adjustment of minimum I/O reserved for server use during rebuild
- Configurable global hot spares

Front-End (Host) Connectivity

- Two storage processors per FC4700
- Each storage processor has two 200 MB/s Fibre Channel ports
- FC SCSI-3 protocol
- Command tag queuing up to 256 tags
- Two optical GBICs supplied per storage processor
- FC-AL and FC-SW support

Maximum Cable Length

Shortwave Optical: 500 meters

Back-End (Disk) Connectivity

- Each storage processor has two 100 MB/s Fibre Channel Arbitrated Loops; two redundant loops providing up to 400 MB/s per FC4700
- RAID groups may be distributed across loops to maximize bandwidth to disks

Drive Interface

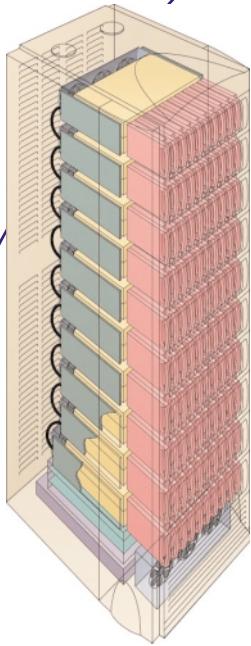
- Dual, independent FC-AL interface ports on each drive, operating at 100 MB/s
- Failover from each storage processor to both Fibre Channel loops is possible

	36 GB (15,000)	73 GB (10,000)	146 GB (10,000)
Formatted Capacity			
(520 bytes/sector)	32.9 GB	71.25 GB	135.7 GB
Form Factor	3.5"	3.5"	3.5"
Height	1.0"	1.0"	1.0"
Rotational Speed	15,000 rpm	10,000 rpm	10,000 rpm
Interface	Fibre Channel	Fibre Channel	Fibre Channel
Data Buffer	8 MB	16 MB	32 MB
# of Segments	Up to 16	Up to 16	Up to 16
Transfer Rates			
Buffer to/from Media	51-69 MB/s	26.7-40.2 MB/s	43-78 MB/s
SP to/from Buffer	100 MB/s (max.)	100 MB/s (max.)	100 MB/s (max.)
Access Time			
Average Seek	3.6 ms Read	5.2 ms Read	4.7 ms Read
	4.2 ms Write	6.2 ms Write	5.3 ms Write
Rotational Latency	2 ms	2.99 ms	2.99 ms

Available Software*

- SnapView™**: BCVs and point-in-time view of information for nondisruptive backup
- MirrorView™**: remote synchronous mirroring for disaster protection
- Nondisruptive Upgrade (NDU)**: online upgrades of storage software and microcode
- Navisphere® Manager**: complete configuration, management, and event notification
- Navisphere Analyzer**: comprehensive performance, management, and trends analysis
- Navisphere Organizer**: generates custom views and comprehensive reports of CLARiiON resources
- CLARAlert®**: constant system monitoring and remote diagnostics
- Access Logix™**: data protection, shared storage access, and security for heterogeneous SAN environments
- PowerPath®**: path failover for continuous data access and load balancing
- DB Tuner for Oracle**: Software used to optimize Oracle database performance

* Consult your EMC account manager for availability, software configuration, and compatibility information.



Dimensions (approximate)

Rackmount Processor Chassis (standard NEMA 19-inch rack)

Height	Width	Depth	Weight
11.25 in. (28.6 cm), 7.5 EIA units (includes SPS)	17.5 in. (44.5 cm)	27.2 in. (69.2 cm)	115 lb. (52 kg) max.

Rackmount Disk Expansion Chassis

Height	Width	Depth	Weight
6.07 in. (15.4 cm), 3.5 EIA units	17.5 in. (44.5 cm)	24.75 in. (62.9 cm)	85 lb. (38.6 kg) max.

39U Rack Enclosure

Height	Width	Depth	Weight
75.3 in. (191.1 cm)	25.5 in. (64.7 cm)	34.25 in. (86.9 cm)	Empty: 296 lb. (134 kg)

Power

Processor Chassis

Frequency: 47-63 Hz
 AC Voltage: 90-264 Vrms, single phase
 Power Factor: .95 (min.)
 Power Dissipation (max.): 800 VA, 760 W
 Btu: 2600 per hour (max.)

Protection

Rackmount: 12 amps, circuit breaker-switch
 AC Circuits: Redundant external AC circuits

Inlet Type

Dual Inlets
 Rackmount: IEC320-C14 appliance coupler

Disk Expansion Chassis

Frequency: 47-63 Hz
 AC Voltage: 90-264 Vrms, single phase
 Power Factor: .98 (min.)
 Power Dissipation (max.): 400 VA, 392 W
 Btu: 1330 per hour (max.)

Protection

Rackmount: 8 amps, circuit breaker-switch
 AC Circuits: Redundant external AC circuits

Inlet Type

Dual Inlets
 Rackmount: IEC320-C14 appliance coupler

AC Power Capability

39U Cabinet

Dual Inlets
 NEMA L6-30P or IEC309-332
 200-240 VAC +/- 10%, Single Phase
 47-63 Hz
 4800 VA max.
 30A, 2-pole circuit breaker

Operating Environment

Temperature: 50-104 degrees F (10-40 degrees C)
 Temperature Gradient: 10 degrees C/hr
 Relative Humidity: 20% to 80% (non-condensing)

Elevation

8,000 ft. (2438.4 m) @ 104 degrees F (40 degrees C) max.
 10,000 ft. (3048 m) @ 98.6 degrees F (37 degrees C) max.

Electromagnetic Emissions and Immunity

FCC Class A	EN55022 Class A
CE Mark	VCCI Class A (for Japan)
ICES-003 Class A (for Canada)	AS/NZS 3548 Class A (for Australia/New Zealand)
EN55024 Immunity, ITE	BSMI Class A (for Taiwan)

Safety

UL 1950; CSA C22.2-950; EN 60950

Quality Standard

Manufactured under an ISO 9000-registered quality system

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Specification Sheet

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