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EMC CLARiiON FC4700 Enterprise 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

FCP 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

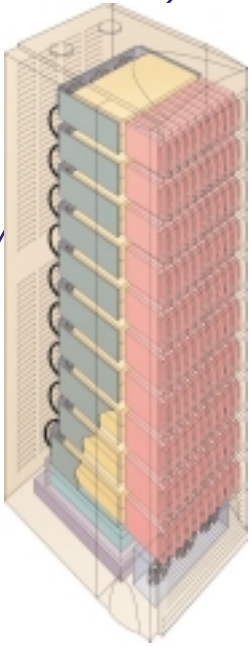RAID groups may be distributed across loops to maximize bandwidth to disks

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

	18 GB (10K)	18GB (15K)	36 GB (10K)	36 GB (15K)	73 GB (10K)	181 GB (7.2K)
Formatted Capacity						
(520 bytes/sector)	17.5 GB	17.5 GB	35.15 GB	32.9 GB	71.25 GB	178.82 GB
Raw Capacity	2.1 TB	2.1 TB	4.3 TB	4.3 TB	8.7 TB	21.7 TB
Usable Capacity	1.8 TB	1.8 TB	3.8 TB	3.8 TB	8.0 TB	19.0 TB
Form Factor	3.5″	3.5″	3.5″	3.5″	3.5″	3.5″
Height	1.0″	1.0″	1.0″	1.0″	1.6″	1.6″
Rotational Speed	10,000 rpm	15,000 rpm	10,000 rpm	15,000 rpm	10,000 rpm	7,200 rpm
Interface	Fibre Channel	Fibre Channel	Fibre Channel	Fibre Channel	Fibre Channel	Fibre Channel
Data Buffer	16 MB	8 MB	16 MB	8 MB	16 MB	16 MB
# of Segments	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16
Transfer Rates						
Buffer to/from Media	26-40 MB/s	37.4-48.9 MB/s	26.7-40.2 MB/s	51-69 MB/s	26.7-40.2 MB/s	46-47 MB/s
SP to/from Buffer	200 MB/s (max.)	200 MB/s (max.)	200 MB/s (max.)	200 MB/s (max.)	200 MB/s (max.)	200 MB/s (max.
Access Time						
Average Seek	5.2 ms Read	3.9 ms Read	5.2 ms Read	3.6 ms Read	5.2 ms Read	7.4 ms Read
	5.8 ms Write	4.5 ms Write	6.0 ms Write	4.2 ms Write	6.2 ms Write	8.2 ms Write
Rotational Latency	2.99 ms	2 ms	2.99 ms	2 ms	2.99 ms	4.17 ms

Available Software*

SnapView: 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

EMC²

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