EMC CLARiiON FC4700 Enterprise System

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

**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

<table>
<thead>
<tr>
<th>Formatted Capacity</th>
<th>18 GB (10K)</th>
<th>16GB (15K)</th>
<th>36 GB (10K)</th>
<th>36 GB (15K)</th>
<th>73 GB (10K)</th>
<th>101 GB (7.2K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(520 bytes/sector)</td>
<td>17.5 GB</td>
<td>17.5 GB</td>
<td>35.15 GB</td>
<td>32.9 GB</td>
<td>71.25 GB</td>
<td>176.42 GB</td>
</tr>
<tr>
<td>Raw Capacity</td>
<td>2.1 TB</td>
<td>2.1 TB</td>
<td>4.3 TB</td>
<td>4.3 TB</td>
<td>8.7 TB</td>
<td>21.7 TB</td>
</tr>
<tr>
<td>Usable Capacity</td>
<td>1.8 TB</td>
<td>1.8 TB</td>
<td>3.8 TB</td>
<td>3.8 TB</td>
<td>8.0 TB</td>
<td>19.0 TB</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
</tr>
<tr>
<td>Height</td>
<td>1.0&quot;</td>
<td>1.0&quot;</td>
<td>1.0&quot;</td>
<td>1.0&quot;</td>
<td>1.6&quot;</td>
<td>1.6&quot;</td>
</tr>
<tr>
<td>Rotational Speed</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>7,200 rpm</td>
</tr>
<tr>
<td>Interface</td>
<td>Fibre Channel</td>
<td>Fibre Channel</td>
<td>Fibre Channel</td>
<td>Fibre Channel</td>
<td>Fibre Channel</td>
<td>Fibre Channel</td>
</tr>
<tr>
<td>Data Buffer</td>
<td>16 MB</td>
<td>8 MB</td>
<td>16 MB</td>
<td>16 MB</td>
<td>16 MB</td>
<td>16 MB</td>
</tr>
<tr>
<td># of Segments</td>
<td>Up to 16</td>
<td>Up to 16</td>
<td>Up to 16</td>
<td>Up to 16</td>
<td>Up to 16</td>
<td>Up to 16</td>
</tr>
</tbody>
</table>

**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 Logic**: 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)

<table>
<thead>
<tr>
<th>Chassis Type</th>
<th>Height (in. / cm)</th>
<th>Width (in. / cm)</th>
<th>Depth (in. / cm)</th>
<th>Weight (lbs. / kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rackmount Processor Chassis (standard NEMA 19-inch rack)</td>
<td>11.25 (28.6)</td>
<td>17.5 (44.5)</td>
<td>27.2 (69.2)</td>
<td>115 (52) max.</td>
</tr>
<tr>
<td>Rackmount Disk Expansion Chassis</td>
<td>6.07 (15.4)</td>
<td>17.5 (44.5)</td>
<td>24.75 (62.9)</td>
<td>85 (38.6) max.</td>
</tr>
<tr>
<td>39U Rack Enclosure</td>
<td>7.5 (19.1)</td>
<td>25.5 (64.7)</td>
<td>34.25 (86.9)</td>
<td>Empty: 290 (134)</td>
</tr>
</tbody>
</table>

## 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.)

### 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: 12 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
- EN50022 Class A
- CE Mark
- VCCI Class A (for Japan)
- ICES-003 Class A (for Canada)
- AS/NZS 3548 Class A (for Australia/New Zealand)
- EN60950 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