

MODELS

StorageWorks Enclosure
Model 2100
187740-B21

OVERVIEW

StorageWorks Enclosure Model 2100

The StorageWorks Enclosure Model 2100 is the packaging for the NEW HSG60 RAID controller. The Model 2100 provides the connection between the HSG60 and disks in Compaq StorageWorks Model 4200 drive enclosures. The Model 2100 supports one or two HSG60s. Two cooperating controllers provide redundancy for high availability. Two channel connections on the Model 2100 allow for connection for two single bus drive shelves or 1 dual bus drive shelves.

PRODUCT HIGHLIGHTS

Component Support

The StorageWorks Enclosure Model 2100 supports modular storage system configurations containing:
StorageWorks Enclosure models 4124R and 4254 drive shelves
HSG60 RAID Controllers

StorageWorks Enclosure Model 4200 family

The Enclosure Model 2200 supports the Enclosure Model 4200 family of drive shelves. See the "Compaq StorageWorks Enclosure Model 4200 Family" QuickSpecs for detailed information on the 4214R and 4254 drive shelf options.

Platform Support

HSG80 controller in the Model 2100 enclosure supports connections to Tru 64 Unix V 4.0F, V4.0G; NT 4.0 WIN2000; SUN Solaris V2.6 Solaris 7; Novell NetWare V4.2, V 5.0; Open VMS V 7.2, V7.2-1; HP UX V10.2, V11.0; operating systems.

HSG60

The HSG60 is the Fibre to SCSI RAID controller. It supports 2 Fibre ports to the SAN and 2 SCSI channels to the disk drives.

HSG60 Fibre Channel Switch Support

Support for 8 and 16 port fibre channel switches allows the full benefits of a storage area network (SAN), providing exceptional connectivity while increasing the effective bandwidth of the network. Supported SAN features include zoning for communication isolation, switch to switch segments up to 10KM, and FC-AL connections into Brocade QuickLoop port handling.

Model 2100 Fault Tolerance

Redundant power supplies, fans, controllers, cache battery backup, hot global spare drives and a multi-level RAID architecture (0, 1, 3/5, 1+0) ensure fault tolerance against system outages and data loss.

Manageability

StorageWorks Command Console (SWCC) provides a graphical user interface (GUI) to setup/configure, monitor, and troubleshoot storage subsystems.

ENCLOSURE MODEL 2100 SPECIFICATIONS

Model	Compaq StorageWorks Enclosure Model 2100
Controller Model	HSG60
Controller Cache	256 MB per controller standard, 512 MB optional
Battery Backup for Cache	Yes
Array Controller Software (ACS)	FC-AL, FC Switch support ACS V8.5L
Host Interface	Arbitrated Loop (FC-AL) or Fibre Channel Switched Fabric
Host Ports per Controller	2, Multi-bus with Transparent Failover
Drive Interface	SE Ultra-wide SCSI, 2 channels
RAID Levels	0, 1, 0+1, 3/5 and Partitioning
Max. Disks Supported	24 per Controller Pair
Non-RAID JBOD Support	Yes
Fibre Channel Switches	16 Port Optical, 8 Port Optical
Fibre Channel Hubs	7 Port Optical, 12 Port Optical
Disks	Compaq Universal Drives
HSG60 O/S Support	Windows NT, NetWare, Tru64 UNIX, OpenVMS, Sun Solaris, HP-UX,
HSG60 Sustained I/O Rate	Over 20K IOPS per Controller Pair
Redundant Fans	Yes. N+1
Environmental Monitoring Unit	Yes. Monitors Power and Temperature
Regulatory approvals	UL, CSA, TUV, FCC, CE MARK, CTICK
Management Software	StorageWorks Command Console (SWCC)

ENCLOSURE MODEL 2100 PHYSICAL SPECIFICATIONS

Physical dimensions	Unpacked/no controllers installed	Shipping
Height	5.9 inches, (150 mm)	30.4 inches (772 mm)
Width	17.5 inches, (445 mm)	13.6 inches (345 mm)
Depth	22 inches, (558 mm)	29.0 inches (737 mm)
Weight (maximum)	58.8 lbs; (26.6 kg)	65 lbs.; (29.5 kg)
Required Front Clearance	2.0 inches, (50.8 mm)	
Required Rear Clearance	4.0 inches, (101.6 mm)	
Power requirements (Domestic/Japan)	100V – 240V +/- 1-%	
AC plug type	3 Wire IEC 320 (20A)	
Number of phases	Single	
Rated current	2.5A @ 110V – 120V AC, 60Hz 1.2A @ 220V – 240V AC, 50 Hz	
BTU rating	410 BTU per hour	
Nominal airflow	30 cubic ft/minute	
Wattage	120 Watts maximum (input)	
Operating environment		
Temperature	50° to 95°F (10° to 35°C) – with an average rate of change of 3°C/h maximum and a step change of 3°C/h or less	
Humidity	40% to 60% (non-condensing) with a step change of 10% or less (non-condensing)	
Altitude		
Air Quality	Not to exceed 500,000 particles per cubic foot of air at a size of 0.5 micron or larger per cubic foot of air	
Regulatory approvals	UL, CSA, TUV, FCC, CE MARK, C TICK, BCIQ, VCCI	

ENCLOSURE MODEL 2100 PHYSICAL SPECIFICATIONS

Software Product Services (recommended for all installations)

- Telephone support
- New version update services, including license and media/documentation subscription services

Hardware Product Services

- Installation services
- Response time upgrades during the warranty period
- Post-warranty coverage
- RAID setup and performance consulting via statement of work

OPTIONS

Controller Options

4 I/O Module Upgrade to EMA12000 M2 Shelf Md 2200	187740-B21
MA6000 2 Channel M2 Shelf Md 2100	187741-B21
HSG60 Controller	174134-B21

Controller Software

ACS V8.5L Controller FC-AL/FC-SW software.	180319-B21
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OS Software/Platform Kits

Visit www.compaq.com for availability.

Tru64	192211-B21
Sun Solaris	192212-B21
Windows NT for Proliant/X86	192214-B21
HP-IX RISC	192216-B21
Open VMS	192217-B21
Novell Netware	192218-B21

Host Bus Adapters

FC PCI HBA for NT, Tru64, OVMS	380574-001
FC PCI LC HBA for Novell	223180-B21
FC SBUS HBA/64 for Sun	123503-001
FC PCI HBA for Sun	380576-001
FC PCI HBA for IBM	149841-B21

Fibre Channel Switches

Fibre Channel SAN Switch, 16 port	158223-B21
Fibre Channel SAN Switch, 8 port	158222-B21
FC SAN Switch Redundant Power option	160427-B21

Fibre Channel Hubs

Fibre Channel Hub 12 with universal mounting for 41U/42U	295573-B22
Fibre Channel Hub 7	234453-001
Hub 7 Mounting Kit	242795-B22
Universal kit for 41U/42U	

OPTIONS *(continued)*

GBICS for Hubs/Switches

FC Short wave GBIC	380561-B21
FC Long Wave GBIC	127508-B21
FC Connection Kit 3 SW GBICS, 2 Cables	380579-B21
FC Connection Kit 2 SW GBICS, 2 Cables	380596-B21

Cables, Cable Kits

Expansion Cables Kit	380563-B21
FC Short Wave 2-Meter Cable	234457-B21
FC Short Wave 5-Meter Cable	234457-B22
FC Short Wave 15-Meter Cable	234457-B23
FC Short Wave 30-Meter Cable	234457-B24
FC Short Wave 50-Meter Cable	234457-B25

StorageWorks Drives

18-GB Ultra2 SCSI 10K RPM 1" Drive	128418-B22
9-GB Ultra2 SCSI 10K RPM 1" Drive	328939-B22

RACK Cabinets

Retma 41U Cab (Blue) 1PDU	125359-B21 Blue 60 Hz
41U Cabinet Power Distribution Unit	380582-001 60 Hz
41U Cabinet Joiner Kit	380584-B21/B22 Blue/Opal
9142 Rack (opal)	120663-B21, -B22, -B23
9136 Rack (opal)	120664-B21, -B22, -B23
9122 Rack (opal)	120665-B21, -B22, -B23

Additional options

HSG60Storage Controller with 256-MB cache	174134-B21
Controller Cache (2 x 128 MB)	380674-B21
Single external cache battery	135823-B21

Standalone components

Model 2100 RAID Controller Shelf	187740-B21
Model 4254	138151-001
Model 4214R	103381-001
Model 4214R Optional Power Supply	119826-B21
Model 4214R Optional Dual Bus I.O	119829-B21