MODELS

StorageWorks™ Enclosure Model 2100 by Compaq

187741-B21

What is Storage Services Bundling?

The Storage Services Bundling takes the existing storage products along with the existing services and creates bundles of storage hardware/software and appropriate services. The increased level of support provides for a higher level of storage system availability for the customer.

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 *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.

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 2100 supports the Enclosure Model 4200 family of drive shelves. See the "*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.

OPTIONS

Controller Options	Model 2100 Controller Enclosure	187741-B21
	HSG60 Controller	174134-B21
	I/O Module Upgrade Kit (4 Modules)	187740-B21
Controller Software	ACS V8.5LController FC-AL/FC-SW software.	180319-B21

COMPAQ

OPTIONS *(continued)*

OS Software/Platform Kits	Tru64	192211-B21
Visit www.compaq.com for availability.	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	176479-B21
	FC PCI HBA for Tru64,OVMS	168794-B21
	FC PCI LC HBA for Novell	120186-B21/291
	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/16 (supports Quckloop) - Bundle	253705-001
	Fibre Channel SAN Switch, 8 port	158222-B21
	Fibre Channel SAN Switch/8 (supports Quckloop) - Bundle	253704-001
	FC SAN Switch Redundant Power option	160407-B21
Fibre Channel Hubs	Fibre Channel Hub 12 with universal mounting for 41U/42U	295573-B22
	Fibre Channel Hub 7	234453-001 Domestic
		234453-B31 Intl
		234453-291 Japan
	Hub 7 Mounting Kit Universal kit for 41U/42U	136127-B21
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 (2.19 Yard) Cable	234457-B21
	FC Short Wave 5-Meter (5.47 Yard) Cable	234457-B22
	FC Short Wave 15-Meter (16.4 Yard) Cable	234457-B23
	FC Short Wave 30-Meter (32.81 Yard) Cable	234457-B24
	FC Short Wave 50-Meter (54.68 Yard) Cable	234457-B25
***StorageWorks* Drives**	18-GB Ultra3 SCSI 10K rpm 1in. (2.54cm.) Drive	142673-B22
	18-GB Ultra2 SCSI 10K rpm 1in. (2.54cm.) Drive	128418-B22
	9-GB Ultra3 SCSI 10K rpm 1in. (2.54cm.) Drive	142671-B22
	9-GB Ultra2 SCSI 10K rpm 1in. (2.54cm.) Drive	328939-B22

OPTIONS *(continued)*

RACK Cabinets		
	Retma 41U Cab (Blue) 1PDU, 60Hz	125359-B21
	Retma 41U Cab (Blue) 1PDU, 50Hz	125359-B22
	41U Cabinet Power Distribution Unit, 60Hz	380582-001
	41U Cabinet Power Distribution Unit, 50Hz	380583-B21
	41U Cabinet Joiner Kit (Blue)	380584-B21
	41U Cabinet Joiner Kit (Opal)	380584-B22
	Retma 42U Cab (opal) 50Hz	180311-B21
	Retma 36U Cab (opal)	180313-B21
	Retma 22U Cab (opal)	180315-B21

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

OPTIONAL SERVICES AND SUPPORT AVAILABLE

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

Note: Certain restrictions apply. Consult the Compaq Customer Support Center for details.

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SPECIFICATIONS

Model	*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)

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		