

MODELS

Fibre Channel SAN Switch/8 with Fabric Operating Software
158222-B21

Fibre Channel SAN Switch/16 with Fabric Operating Software
158223-B21

Key Features

High performance Storage Area (SAN) switch fabric for Compaq RAID Array 8000 and ESA 12000 storage systems

A key component of Compaq's Enterprise Network Storage Architecture (ENSA), the Compaq StorageWorks Fibre Channel SAN Switch/8 and Fibre Channel SAN Switch/16 are high performance, scalable switch fabrics designed for creating SAN's with Compaq StorageWorks RAID Array 8000 and ESA 12000 storage systems. Major features of these new switch fabrics include:

- Eight (Fibre Channel SAN Switch/8) or sixteen (Fibre Channel SAN Switch/16) 1 Gb/s non-blocking Fibre Channel connections for high data throughput.
- Both models pre-configured with Fabric operating software, WEB Based Management Tools, Zoning software, and QuickLoop™ FCAL emulation software for HP-UX.
- Dynamic path rerouting in the event of a link failure.
- Direct fabric attached server operating system support now includes Solaris 2.7.
- Support for interconnecting up to 4 switches together (2 switch hops max) for creating larger SAN's.
- General 10-km link distance support for switch to switch connections.
- Multiple methods for switch management.
- Hot pluggable power supplies and optional second power supply
- Redundant, hot pluggable cooling fans on both switches.
- Backward compatibility between new Fibre Channel SAN switches and previous Fibre Channel switches.

Configuration versatility

- New "Universal Ports" self configure to the type of device connected to them. Automatically detect a fabric attached device (F port), an FCAL attached device (FL port), or another Compaq StorageWorks Fibre Channel SAN Switch (E port).
- Unique translative addressing allows private loop devices to be addressed by fabric attached devices.

Hot pluggable, industry-standard GBIC's (Gigabit Interface Converter)

- Short-wave GBIC supports distances up to 500 meters between server and switch, and between storage system and switch, using multi-mode fiber optic cable.
- Long-wave GBIC supports distances up to 10 kilometers between switches using single-mode fiber optic cable.
- New Fibre Channel SAN Switches use the same GBIC's and cabling as previous Fibre channel switches.

QuickLoop™ FCAL emulation software for HP-UX

- New Quickloop™ FCAL emulation software for HP-UX enables connection of FCAL attached HP-UX based servers directly to a new Fibre Channel SAN Switch for supporting heterogeneous server environments on a SAN.
- Configure some ports on a switch as an arbitrated loop for supporting HP-UX and others as direct non-blocking fabric connected ports for supporting Solaris, Tru64 Unix, OVMS, and Windows NT.

Zoning software enables creations of multiple "logical" SAN's within a switch fabric

- Zone members only see other members of the zone.
- Devices may belong to more than one zone.
- Zones may be configured dynamically.

Easy switch management

Administrative functions take place from an existing LAN-based system or locally in the SAN itself. Supported management methods include:

- SNMP (Simple Network Management Protocol)
- Telnet
- WEB Based Management Tools launched via StorageWorks Command Console
- Telnet command subset via switch front panel display (Fibre Channel SAN Switch/16 only)

Disaster resilience and Scalability

- Two switches can be interconnected and separated from each other by up to 10 Km.
- Support for multiple connections between switches for higher bandwidth and redundancy.
- Switch fabric automatically determines the most efficient path between server and storage end points and dynamically reroutes data to an alternate path in the event of interruption.

Direct Fabric Connection Support for These Operating Systems

- OpenVMS 7.2
- Tru64 Unix 4.0F
- Microsoft Windows NT 4.0
- Solaris 2.6, 2.7 (32b & 64b)

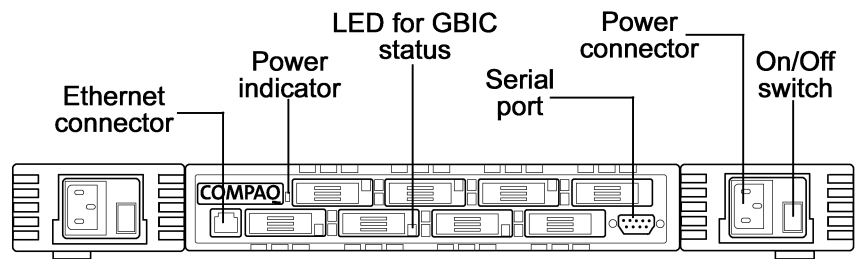
Packaging

PN 167365-B21: Rack mount kit for 8 & 16 port SAN Switches

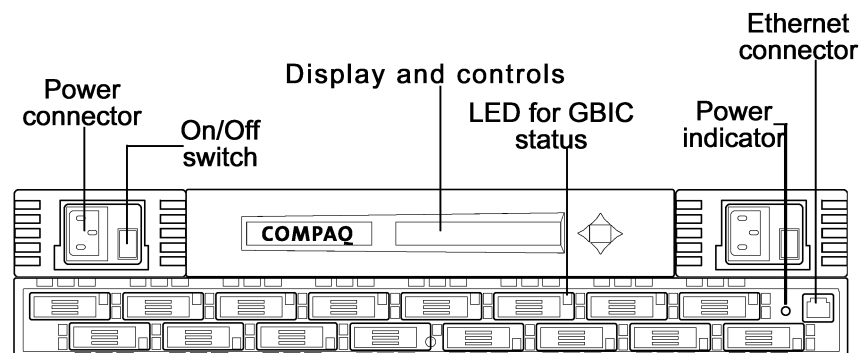
PN 160407-B21: Redundant power supply for 8 & 16 port SAN Switches

Warranty¹

One-year, on-site service, next business day response



Fibre Channel SAN Switch/8



Fibre Channel SAN Switch/16

TECHNICAL SPECIFICATIONS

Features	Description
Number of Fibre Channel ports	8 Universal Ports (FC SAN Switch/8) 16 Universal Ports (FC SAN Switch/16)
Fibre Channel port speed	1.0625 Gb/sec
Operation modes	Fibre Channel Class 2 and 3 connectionless service
Aggregate bandwidth	8 Gb/s (FC SAN Switch/8) 16 Gb/s (FC SAN Switch/16)
Latency	<2 µsec with no contention
Data traffic types	Unicast, multicast, and broadcast
Mechanical Specifications	
SAN Switch/8	1U, 19 in (EIA compliant) H: 1.71 in/4.34 cm W: 16.87 in/42.86 cm D: 17.72 in/45.0 cm Weight: 14 lbs/6.36 kg
SAN Switch/16	2U, 19 in. (EIA compliant) H: 3.44 in/8.73 cm W: 16.87 in/42.86 cm D: 17.72 in/45.0 cm Weight: 25.6 lbs/11.59 kg
Supported power range	100 to 240 VAC nominal, 47 to 63 Hz
Diagnostics	Embedded online and offline diagnostics

SWITCH MANAGEMENT SPECIFICATIONS

Features	Description
Fabric services	Simple Name Server, Registered State Change Notification (RSCN), Alias Server (Multicast), Zoning (optional), QuickLoop (optional)
Management access	Telnet, SNMP, SWCC WEB Based Management Tools
Management interfaces	Ethernet (RJ-45, 10/100 Base TX UTP), In band Fibre Channel link, front panel display (FC SAN Switch/16)

ENVIRONMENTAL SPECIFICATIONS

Features	Operating Range
Temperature	50° to 104°F/10°C to 40°C
Humidity	5% to 85% non-condensing @ 40°C
Altitude	0 to 3 kilometers above sea level
Shock	5g, 11 ms duration, half sine
Vibration	5, 5-500-5Hz@1.0 octave/minute

REGULATORY SPECIFICATIONS

Safety
UL Standard 1950, 3 rd Edition
CSA (Canada)
IEC950/EN 60 950, (CF-Europe)
TUV (Germany)

REGULATORY SPECIFICATIONS *(continued)*

EMI

FCC Rules & Regulations, Part 15B, Class A level
CISPR22 Class A
EN55022 Class A
VCCI Class A ITE
AS/NZS 3548 Class A

Immunity

IEC 801-2 (IE: IEC 1000-4-2), Severity Level 3 for ESD
IEC 801-3 (IE: IEC 1000-4-3), Severity Level 3 for Radiated Fields
IEC 801-4 (IE: IEC 1000-4-4), Severity Level 3 for Fast Transients
IEC 801-5 (IE: IEC 1000-4-5), Severity Level 3 for Surge Voltage
IEC 801-6 (IE: IEC 1000-4-6), Conducted Emissions

¹ Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center for details. In Canada, consult the Product Information Center at 1-800-567-1616 for details.

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