

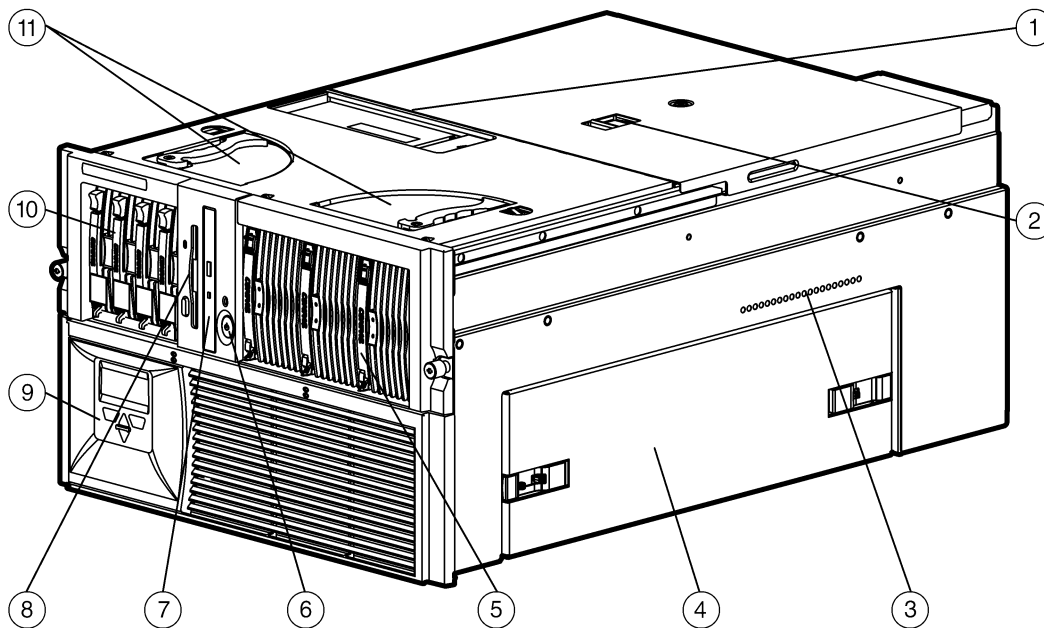
# QuickSpecs

Compaq ProLiant DL590/64

## Overview

### What's New

- The Compaq ProLiant™ DL590/64 introduces the first 64-bit industry-standard rackmount platform delivering high-density (7U) Enterprise computing
- Intel® Itanium™ 800 MHz-4MB and 733 MHz-2MB processors (four processor capability)
- 2-MB, 4-MB L3 Cache
- 133MHz double data rate front-side bus (266 MHz)
- 6 PCI Bus segments – Eleven 64-bit hot plug expansion slots (eight 64-bit/66-MHz, three 64-bit/33-MHz)
- Integrated Compaq NC3134 Fast Ethernet NIC 64 PCI Dual Port 10/100 in a slot, upgradeable to Gigabit and 4 Port 10/100
- Integrated Smart Array Controller (Ultra 2 support)
- Advanced ECC Memory Correction
- 4-GB (800 MHz Model) or 1-GB (733 MHz Model) standard memory using PC100 SDRAM DIMMs, expandable to 64-GB maximum
- 4 x 1" Wide Ultra 2/Ultra 3 drive bays standard
- Internal Hot Plug Drive Storage of 291.2 GB (4 x 1" 72.8-GB Wide Ultra3 SCSI hard drives)
- Modular design includes:
  - Easier to service and upgrade
  - Processor/Memory module
  - Removable media module
- 1250/700 watt (highline/lowline) N+1 Hot Plug Redundant Power Supply
- Hot Plug, N+1 Redundant System Power Modules
- Hot Plug Redundant Fans
- ROM-Based Setup Utility (RBSU)
- Remote-Flash Redundant ROM
- Integrated Management Display (IMD)
- ACU-XE (Array Controller Utility-XE)
- Protected by Compaq Services, including a three-year, Next Business Day on-site, limited, Global warranty and extended Pre-Failure Warranty that covers processors, memory and disk drives — Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center at 1-800-345-1518 for details.



1. Fan Access Cover
2. Top Access panel
3. System Interconnect / Status LEDs
4. Processor/Memory Drawer
5. Hot Plug Redundant Power Supplies
6. Power button/switch
7. 24x IDE CD-ROM Drive (Slim Line)
8. Integrated LS-120 Drive
9. Integrated Management Display (IMD)
10. Four 1" Wide Ultra2/Ultra3 SCSI Hot Plug Drive Bays
11. Media/Power Supply Module Release Levers

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# QuickSpecs

Compaq ProLiant DL590/64

## Standard Features

<b>Processor</b> <i>One of the following depending on Model:</i>	Intel Itanium processors 800 MHz (Two ship standard, up to four supported) Intel Itanium processors 733 MHz (Two ship standard, up to four supported)	
<b>Cache Memory</b> <i>One of the following depending on Model:</i>	4-MB level 3 writeback cache per processor standard (Note: Available with 800 MHz processor.) 2-MB level 3 writeback cache per processor standard (Note: Available with 733 MHz processor.)	
<b>Upgradability</b>	Upgradable to four processors	
<b>Chipset</b>	Intel 460GX Chipset Note: For more information regarding the Intel Chipset, please see the following URL: <a href="http://www.intel.com/design/itanium/chipdoc.htm?id=ipp_srvr_proc_itanium+body_460gx&amp;">http://www.intel.com/design/itanium/chipdoc.htm?id=ipp_srvr_proc_itanium+body_460gx&amp;</a>	
<b>Memory</b> <i>One of the following depending on Model:</i>	Standard	4096-MB ECC protected 100-MHz ECC SDRAM DIMMs (800-MHz Model)
	Maximum	64 GB
	Standard	1024-MB ECC protected 100-MHz ECC SDRAM DIMMs (733-MHz Model)
	Maximum	64 GB
<b>Network Controller</b>	Integrated Compaq NC3134 Fast Ethernet NIC 64 PCI Dual Port 10/100 in a slot, upgradeable to Gigabit and 4 Port 10/100	
<b>Expansion Slots</b>	I/O (11 Total – 6 PCI Buses)	PCI Voltage:
	64-bit/66-MHz PCI (Hot Plug) Slots 2 – 8, full length Slot 9, ¾ - length	Universal or 3.3 Volt keying Universal or 3.3 Volt keying
	64-bit/33-MHz PCI (Hot Plug) Slot 1, full length Slots 10 – 11, ¾ - length	Universal or 5 Volt keying Universal or 5 Volt keying
<b>Storage Controllers</b>	Integrated Smart Array Controller (Ultra2) (One Internal Channel for RAID Capability for internal drives) Note: The Integrated Smart Array Controller is embedded on the system board. Optional support of Ultra3 and Fibre Channel in an I/O slot	
<b>Storage</b>	Diskette Drives	Integrated LS-120 Drive
	CD-ROM	Integrated 24x IDE CD-ROM (Slim Line) Drive
	Hard Drives	None
	Maximum Internal Storage	291.2 GB (4 x 72.8 GB 1") (internal hot plug cage only)
<b>Interfaces</b>	Parallel	1
	Serial	2
	Pointing Device (Mouse)	1
	Graphics	1
	Keyboard	1
	USB	2
	Note: Please see the following URL for additional information regarding USB support: <a href="http://www.compaq.com/products/servers/platforms/usb-support.html">http://www.compaq.com/products/servers/platforms/usb-support.html</a> .	
	Network RJ-45	2

# QuickSpecs

Compaq ProLiant DL590/64

## Standard Features

<b>Graphics</b>	Embedded ATI Rage XL Video Controller with 8-MB SDRAM Video Memory
<b>Form Factor</b>	7U Rack Form Factor; Ships with sliding rack rails and cable management arm; Standard 19" rack-mountable
<b>Product Tour</b>	To view the Product Tour, please see the following URL, then click on "PRODUCT TOUR": <a href="http://www5.compaq.com/products/servers/proliantdl590/index.html">http://www5.compaq.com/products/servers/proliantdl590/index.html</a> .
<b>Compaq Software</b>	<p>Compaq ProLiant DL590/64 Server Support Software    Auto-launching CD containing browser based Compaq software including Compaq Support Paq for Microsoft® Windows® Advanced Server, Limited Edition and Compaq Softpaq supplemental software.</p> <p>Compaq <i>Insight Manager XE™</i>    Compaq Insight Manager XE leverages the power of the Internet to provide web-based systems management, and plays a key role in Compaq's strategy to simplify IT management. Compaq Insight Manager XE reduces systems management cost, improves operational efficiency and effectiveness, and minimizes systems downtime.</p> <p>Array Configuration Utility (ACU- XE) with Smart Array Controllers    Compaq Configuration Utility XE (ACU-XE) web-based software for Smart Array products and the StorageWorks RAID Array 4x00 systems by Compaq allows for ease of configuration and expandability for your disk arrays, remote configuration capabilities, and multi-platform support.</p>
<b>Industry Standard Compliance</b>	<p>ACPI 2.0 Compliant</p> <p>PCI 2.2 Compliant</p> <p>DIG64 1.1 Compliant</p> <p>EFI 1.02 Compliant</p>
<b>Manageability</b>	<p>Compaq Insight Manager XE</p> <p>ROM-Based Setup Utility (RBSU)</p> <p>Integrated Management Display (IMD)</p> <p>Integrated Management Log (IML)</p> <p>Server Health logging</p> <p>System Interconnect/Status Indicators</p> <p>Remote-Flash Redundant ROM</p> <p>Automatic Server-2 (ASR)</p> <p>ACU-XE (Array Controller Utility-XE)</p> <p>Power Supply Utility</p> <p>Pre-Failure Warranty (covers processors, as well as hard drives and memory)</p>
<b>Availability</b>	<p>PCI Hot Plug with ergonomic push button functionality</p> <p>Redundant Hot Plug Fans</p> <p>Dynamic sector repairing and drive parameter tracking (with Smart Array controllers)</p> <p>Hot Plug Dual Port 10/100 TX NIC</p> <p>Redundant Hot Plug Power Supplies</p> <p>Redundant Hot Plug System Power Modules</p> <p>Advanced ECC Error Correction Memory</p> <p>Intelligent Failover, Redundant AC line cords (with highline [180-264V] AC input)</p> <p>Remote Flash Redundant ROM</p>

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## Standard Features

<b>Security</b>	<p>Power-on password          Hot plug keyboard password          Network server mode          Parallel and serial interface control          Administrator's password          System configuration lock          Hot plug access security</p>
<b>Power Supply</b>	<p>Redundant Hot Plug supplies. Power supplies are load sharing and provide 1250-watts of output power for highline (180-264 volt) AC input or 700 watts of power for lowline (90-132 volt) AC input.          Redundant Hot Plug System Power Modules          Power supplies and system power modules must be installed in a set of (1) each</p>
<b>System Fans</b>	<p>10 Redundant Hot Plug fans shipped standard.  <b>Note:</b> 10 fans include six, 92mm redundant hot plug fans (to cool media module and I/O) and four, 6" redundant hot plug fans (to cool processor/memory drawer).</p>
<b>Required Cabling</b>	<p>For required cabling information, refer to the Compaq Web site at:  <a href="http://www.compaq.com/products/servers/proliantDL590/">http://www.compaq.com/products/servers/proliantDL590/</a>  <b>Note:</b> This Web site is available in English only.</p>
<b>OS Support</b>	<p>Microsoft Windows Advanced Server Limited Edition          Linux® 64 (Red Hat®, SuSE®, Caldera®)  <b>Note:</b> For a more complete and up-to-date listing of supported OS's and versions, please visit our OS Support Matrix at: <a href="ftp://ftp.compaq.com/pub/products/servers/os-support-matrix-310.pdf">ftp://ftp.compaq.com/pub/products/servers/os-support-matrix-310.pdf</a>.   <b>Note:</b> For an up-to-date listing of the latest drivers available for the Compaq ProLiant DL590/64, please see: <a href="http://www.compaq.com/support/files/server/us/index.html">http://www.compaq.com/support/files/server/us/index.html</a>.</p>
<b>Rack Airflow Requirements</b>	<ul style="list-style-type: none"> <li>• Rack 9000 and 10000 series Cabinets           <p>The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The Compaq 9000 Series Rack and the new 10000 Series Racks provides enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.</p> </li> <li>• Rack 7000 series Cabinets           <p>When installing a server with processors running at speeds of 550 MHz or greater in Compaq Rack 7000 series racks with glass doors (165753-001 (42U), and 163747-001 (22U)), the new processor technology requires the installation of Compaq's new High Airflow Rack Door Inserts (327281-B21 (42U), 327281-B22 (42U 6 pack), or 157847-B21 (22U)) to promote enhanced airflow for maximum cooling.</p> <p><b>CAUTION:</b> If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:</p> <ul style="list-style-type: none"> <li>○ <u>Front and rear doors:</u> If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).</li> <li>○ <u>Side:</u> The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 inches)</li> </ul> <p><b>CAUTION:</b> Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.</p> <p><b>Note:</b> For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL:  <a href="http://www5.compaq.com/products/servers/proliantdl590/index.html">http://www5.compaq.com/products/servers/proliantdl590/index.html</a>.</p> </li> </ul>

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## Standard Features

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### Service and Support

Compaq Services provides a three-year, limited warranty, including Pre-Failure Warranty (coverage of hard drives, memory and processors) fully supported by a worldwide network of resellers and service providers. Compaq technical assistance is available 7x24, toll free in the United States and Canada. Telephone support services may be covered under warranty or available for an additional fee.

Note: Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support.

A full range of *CarePac*™ packaged hardware and software services:

- Installation and start up
- Extended coverage hours and enhanced response times
- System management and performance services
- Availability and recovery services

Note: For more information, customer/resellers can contact <http://www.compaq.com/services>.

Please see the following URL regarding Warranty Information For Your Compaq Products:  
[http://www.compaq.com/support/warranty\\_upgrades/web\\_statements/176738.html](http://www.compaq.com/support/warranty_upgrades/web_statements/176738.html).

For additional information regarding Worldwide Limited Warranty and Technical Support, please see the following URL: <ftp://ftp.compaq.com/pub/supportinformation/ejourney/176738.pdf>.

Note: Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center at 1-800-345-1518 for details.

# QuickSpecs

Compaq ProLiant DL590/64

## Models

<b>Model DL590/64R01 1800-4MB, 4096MB (2P)</b>  <i>171597-B21</i>	<b>Processor(s)</b>	(2) Intel Itanium 800 MHz standard (up to 4 supported)
	<b>Cache Memory</b>	4-MB Level 3 writeback per processor
	<b>Memory</b>	4096 MB (Standard) to 64 GB (Maximum) PC100 CL2 ECC SDRAM DIMMs with 2 memory expansion boards (standard)
	<b>Network Controller</b>	Integrated Compaq NC3134 Fast Ethernet NIC 64 PCI Dual Port 10/100 in a slot
	<b>Storage Controller</b>	Integrated Smart Array Controller (Ultra2)
	<b>Hard Drives</b>	None
	<b>Internal Storage</b>	291.2 GB maximum (with optional hard drives)
	<b>Removable Media</b>	LS-120 Drive
	<b>Optical Drive</b>	24x IDE CD-ROM (Slim Line) Drive
	<b>Power</b>	(2) Power Supplies 1250/700 watt (highline/lowline), N + 1 Hot Plug Redundant (2) System Power Modules, N + 1 Hot Plug Redundant
	<b>Form Factor</b>	7U Rack Form Factor
<b>Model DL590/64R01 1733-2MB, 1024MB (2P)</b>  <i>171596-B21</i>	<b>Processor(s)</b>	(2) Intel Itanium 733 MHz standard (up to 4 supported)
	<b>Cache Memory</b>	2-MB Level 3 writeback per processor
	<b>Memory</b>	1024 MB (Standard) to 64 GB (Maximum) PC100 CL2 ECC SDRAM DIMMs with 1 memory expansion board (standard)
	<b>Network Controller</b>	Integrated Compaq NC3134 Fast Ethernet NIC 64 PCI Dual Port 10/100 in a slot
	<b>Storage Controller</b>	Integrated Smart Array Controller (Ultra2)
	<b>Hard Drives</b>	None
	<b>Internal Storage</b>	291.2 GB maximum (with optional hard drives)
	<b>Removable Media</b>	LS-120 Drive
	<b>Optical Drive</b>	24x IDE CD-ROM (Slim Line) Drive
	<b>Power</b>	(1) 1250/700 watt (highline/lowline), N + 1 Hot Plug Redundant Power Supply (1) System Power Modules, N + 1 Hot Plug Redundant
	<b>Form Factor</b>	7U Rack Form Factor

## Options

ProLiant DL590/64 Unique Options	Itanium I800-4MB Processor Option Kit	230561-B21
	Itanium I733-2MB Processor Option Kit	230560-B21
	4096-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 1024 MB)	232309-B21
	2048-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 512 MB)	232308-B21
	1024-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 256 MB)	232307-B21
	Memory Board Option Kit	232305-B21
Note: Memory greater than 32GB requires the purchase and installation of the Memory Board Option Kit (PN 232305-B21) for 171596-B21 733-MHz model only.		
Processor	Itanium I800-4MB Processor Option Kit	230561-B21
	Itanium I733-2MB Processor Option Kit	230560-B21
Note: The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted server. The Compaq 9000 Series Rack and the new 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.		
Software	Microsoft Windows Advanced Server Limited Edition 1.1	253953-002
	Note: MS Windows Advanced Server Limited Edition is available for sale only through OEMs such as Compaq. It may also be downloaded as an evaluation copy from the Microsoft Developer Network website if you are a subscriber.	
Memory (SDRAM DIMMs)	4096-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 1024 MB)	232309-B21
	2048-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 512 MB)	232308-B21
	1024-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 256 MB)	232307-B21
	Memory Board Option Kit	232305-B21
Note: Memory greater than 32 GB requires the purchase and installation of the Memory Board Option Kit (PN 232305-B21) for 171596-B21 733 MHz model only.		
Hard Drives	<b>Wide Ultra3 Universal Drives – Hot Plug</b>	
	72.8-GB Wide Ultra3 SCSI 10,000 rpm Drive (1")	232432-B22
	36.4-GB Wide Ultra3 SCSI 10,000 rpm Drive (1")	176496-B22
	18.2-GB Wide Ultra3 SCSI 10,000 rpm Drive (1")	142673-B22
	36.4-GB Wide Ultra3 SCSI 15,000 rpm Drive (1")	232916-B22
	18.2-GB Wide Ultra3 SCSI 15,000 rpm Drive (1")	188122-B22
Storage Controllers	Smart Array 532 Controller	225338-B21
	Smart Array 532 Controller (Japan)	225338-291
	Smart Array 5302/32 Controller	166207-B21
	Smart Array 5302/32 Controller (Japan)	166207-291
	Smart Array 5302/64 Controller	124992-B21
	Smart Array 5302/64 Controller (Japan)	124992-291
	Smart Array 5304/128 Controller	158939-B21
	Smart Array 5304/128 Controller (Japan)	158939-291
	Smart Array 5302/128 Controller	283552-B21
	Smart Array 5302/128 Controller (Japan)	283552-291
	Smart Array 5304/256 Controller	283551-B21
	Smart Array 5304/256 Controller (Japan)	283551-291
	Integrated Smart Array Bypass Kit (long cable)	212693-B21
	Note: This Integrated Smart Array Bypass Kit (PN 212693-B21) is required when the customer chooses to install the Smart Array 5300 Controller in a 64-bit/66-MHz PCI slot to gain Ultra capability and battery-backed cache when connected to the internal hard drives.	

## Options

<b>Storage Controllers</b> <i>(continued)</i>	Ultra3 Channel Expansion Module for Smart Array 5300 Controller	153507-B21
	128-MB Cache Module for Smart Array 5302 Controller	153506-B21
	Advanced Data Guarding Module for Smart Array 5302 Controller	199371-B21
	256-MB Battery-Backed Cache Module	254786-B21
	<i>Note: This 256-MB Battery-Backed Cache Module supports the Smart Array 5300 series controllers, MSA 1000 and the Smart Array Cluster Storage</i>	
	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21
	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter (Japan)	129803-291
	64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter	154457-B21
	64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter (Japan)	154457-291
<b>Communications</b>	Compaq NC3123 Fast Ethernet NIC PCI 10/100 WOL	174830-B21
	Compaq NC3134 Fast Ethernet NIC 64 PCI Dual Port 10/100	138603-B21
	Compaq NC3135 Fast Ethernet Module Dual 10/100 Upgrade for the NC3134	138604-B21
	Compaq NC6132 Gigabit Module 1000 SX Upgrade Module for NC3134 and NC3131	338456-B23
	Compaq NC6133 Gigabit Module 1000LX Upgrade Module for NC3134 and NC3131	338456-B24
	Compaq NC3133 Fast Ethernet Module 100FX Upgrade Module for NC3134 and NC3131	338456-B25
	Compaq NC6136 Gigabit Server Adapter, 64-bit/66MHz, PCI, 1000 SX	203539-B21
	Compaq NC7131 Gigabit Server Adapter, 64-bit/66MHz, PCI, 10/100/1000-T	158575-B21
	Compaq NC7132 10/100/1000-T Upgrade Module for NC3134 and NC3131	153543-B21
<b>Redundant Options</b>	1250/700 Watt N+1 Hot Plug Redundant Power Supply and Hot Plug System Power Module	232310-B21
<b>Monitors</b>	Flat Panel TFT8030 Color Monitor Two-Tone	234362-xxx
	Flat Panel TFT7020 Color Monitor Two-Tone	253216-xxx
	Flat Panel TFT5030 Color Monitor Two-Tone (Carbon/Silver)	228134-xxx
	Flat Panel TFT5015 Color Monitor (Opal)	234043-xxx
	Flat Panel TFT5015 Color Monitor Two-Tone (Carbon/Silver)	234044-xxx
	P920 CRT Monitor Two-Tone (Carbon/Silver)	244375-xxx
	P720 CRT Monitor Two-Tone (Carbon/Silver)	244373-xxx
	V720 CRT Monitor Two-Tone (Carbon/Silver)	232944-xxx
	V720 CRT Monitor (Opal)	232943-xxx
	V570 Color Monitor	228114-xxx
	V570 Color Monitor Two-Tone (Carbon/Silver)	228113-xxx
	S920 Color Monitor (Opal)	240325-xxx
	S920 Color Monitor Two-Tone (Carbon/Silver)	240326-xxx
	S720 Color Monitor (Opal) (Lite-On)	239286-xxx
	<i>Note: Available in North America, Canada, and Greater China only.</i>	
	S720 Color Monitor Two-tone (Carbon/Silver) (Lite-On)	239287-xxx
	<i>Note: Available in North America, Canada, and Greater China only.</i>	
	S720 Color Monitor (Opal) (Samsung)	238992-xxx
	<i>Note: Available in APD, Latin America, EMEA, and Japan only.</i>	
	S720 Color Monitor Two-tone (Carbon/Silver) (Samsung)	238993-xxx
<i>Note: Available in APD, Latin America, EMEA, and Japan only.</i>		
TFT5010R Flat Panel Monitor (NA)	217248-001	
TFT5010R Flat Panel Monitor (Int'l)	217248-B31	
TFT5010R Flat Panel Monitor (Japan)	217248-291	



## Options

CRT Country Code Key	NORTH AMERICA (NA)/LATIN AMERICA (LA)
	Dash # Description
	-001 NA Kit with US Power Cord
	-002 Carbon model with US Power Cord
	-003 Touch Screen model with US Power Cord
	-004 NAFTA model with US Power Cord (Made in Mexico)
	-005 NA Kit with Powered Speakers
	-006 GSA model with US Power Cord
	-007 NH MPR model with US power cord (Made in Mexico)
	-B24 TCO model without power cord (Digital Classic)
	-201 EH model for Brazil (older Brazil models used -B29)
	-202 EH model for Brazil Carbon (older Brazil models used -B29)
	-C91 EH model for Mercosur countries
	-C92 EH model for Mercosur countries Carbon
	-B29 EH/ALADI model for Latin America
	Note: All NA/LA models above are NH.
	EUROPE, MIDDLE EAST AND AFRICA (EMEA)
	Dash # Description
	-021 NH/TCO with Eurocord (DCE Hub)
	-022 NH/MPR with Eurocord (DCE Hub) (India)
	-023 NH Carbon model with Eurocord (DCE Hub)
	-024 NH Touch Screen model with Eurocord (DCE Hub)
	-025 NH Kit with Speakers and Eurocord
	-A91 NH/TCO without power cord (Dubai hub)
	-A92 NH/MPR without power cord (Dubai hub)
	-031 NH/TCO with UK Cord (UK Hub)
	-032 NH/MPR with UK Cord (UK Hub)
	-033 NH/TCO carbon with UK Cord
	-035 NH Kit with Speakers and UK Cord
	-B21 SH/MPR without power cord (S. Africa Hub)
	-B23 SH/TCO without power cord (S. Africa Hub)
	-B27 SH/TCO Carbon without power cord (S. Africa Hub)
	PACIFIC/AUSTRALIA (APD)
	Dash # Description
	-B22 NH/MPR without power cord
	-B24 NH/TCO without power cord
	-B25 EH Carbon model without power cord
	-B26 NH Touch Screen model without power cord
	-011 SH model with AUZ/NZ power cord
	-015 SH model with speakers AUZ/NZ power cord
	-012 SH Carbon model with AUZ/NZ power cord
	-AD1 NH model for Korea
	-AD2 NH Carbon model for Korea
	-B28 EH model without power cord
	-B35 EH model with speakers no power cord (Singapore)

## Options

## CRT Country Code Key (continued) GREATER CHINA (GCD)

## Dash # Description

-AA1	NH/China Kit with CCIB label (Local Sales)
-AA2	NH/ Carbon China Kit with CCIB label (Local Sales)
-KA1	NH/China Kit with CCIB label (External Sales/Bundles in HK)
-AB1	NH/Taiwan kit, manufactured in Taiwan

## JAPAN (CKK)

## Dash # Description

-291	NH/Japan Kit with 3-2 pin adapter
-292	NH Carbon Japan Kit with 3-2 pin adapter

## TFT Country Code Key

## EUROPE, MIDDLE EAST &amp; AFRICA (EMEA)

## Dash # Description

-021	Europe
-031	UK

## NORTH AMERICA

## Dash # Description

-001	NA
-B24	All NA/LA models

## APD

## Dash # Description

-011	Australia/NZ
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## JAPAN (CKK)

## Dash # Description

-291	Japan
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## Tape Drives

*External DAT Tape Drives*

HP StorageWorks 20/40-GB DAT DDS-4 Tape Drive, External (Carbon) (NA)	157770-002
HP StorageWorks 20/40-GB DAT DDS-4 Tape Drive, External (Int'l) (Carbon)	157770-B32
HP StorageWorks 20/40-GB DAT DDS-4 Tape Drive, External (Japan) (Carbon)	157770-292

Note: Please see the 20/40-GB DAT Tape Drive QuickSpecs for additional options such as host bus adapters, controllers, cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10426\\_div/10426\\_div.HTML](http://www5.compaq.com/products/quickspecs/10426_div/10426_div.HTML) (Division/World Wide)  
[http://www5.compaq.com/products/quickspecs/10426\\_na/10426\\_na.HTML](http://www5.compaq.com/products/quickspecs/10426_na/10426_na.HTML) (North America)

*External AIT Tape Drives*

HP StorageWorks External AIT 35-GB,LVD Tape Drive (Carbon)	216885-001
HP StorageWorks External AIT 35-GB,LVD Tape Drive (Carbon) (Int'l)	216885-B31
HP StorageWorks External AIT 35-GB,LVD Tape Drive (Carbon) (Japan)	216885-291

Note: Please see the AIT 35-GB, LVD Tape Drive QuickSpecs for additional options such as adapters, controllers, and cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10712\\_div/10712\\_div.HTML](http://www5.compaq.com/products/quickspecs/10712_div/10712_div.HTML) (Division/World Wide)  
[http://www5.compaq.com/products/quickspecs/10712\\_na/10712\\_na.HTML](http://www5.compaq.com/products/quickspecs/10712_na/10712_na.HTML) (North America)

HP StorageWorks AIT 50-GB Tape Drive, External (Carbon) (NA)	157767-002
HP StorageWorks AIT 50-GB Tape Drive, External (Int'l) (Carbon)	157767-B32
HP StorageWorks AIT 50-GB Tape Drive, External (Japan) (Carbon)	157767-292
HP StorageWorks AIT 50GB Tape Drive, 3U Rackmount	274333-B21

Note: Please see the AIT 50-GB Tape Drive QuickSpecs for additional options such as adapters, controllers, and cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10425\\_div/10425\\_div.HTML](http://www5.compaq.com/products/quickspecs/10425_div/10425_div.HTML) (Division/World Wide)  
[http://www5.compaq.com/products/quickspecs/10425\\_na/10425\\_na.HTML](http://www5.compaq.com/products/quickspecs/10425_na/10425_na.HTML) (North America)

## Options

## Tape Drives (continued)

**External AIT Tape Drives (continued)**

HP StorageWorks External AIT 100-GB Tape Drive (Carbon)	249160-001
HP StorageWorks External AIT 100-GB Tape Drive (Carbon) (Int'l)	249160-B31

Note: Please see the Compaq AIT 100-GB Tape Drive QuickSpecs for additional options such as adapters, controllers, and cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/11062\\_div/11062\\_div.HTML](http://www5.compaq.com/products/quickspecs/11062_div/11062_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/11062\\_na/11062\\_na.HTML](http://www5.compaq.com/products/quickspecs/11062_na/11062_na.HTML) (North America)

**External DLT/SDLT Tape Drives**

HP StorageWorks External 20/40-GB DLT Drive (opal)	340744-B22
HP StorageWorks External 20/40-GB DLT Drive (opal) (Japan)	340744-292

Note: Please see the 20/40-GB DLT Drive QuickSpecs for additional options such as data and cleaning cartridges, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10234\\_div/10234\\_div.HTML](http://www5.compaq.com/products/quickspecs/10234_div/10234_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/10234\\_na/10234\\_na.HTML](http://www5.compaq.com/products/quickspecs/10234_na/10234_na.HTML) (North America)

HP StorageWorks 40/80-GB DLT Tape Drive, External (Carbon) (NA)	146197-B22
HP StorageWorks 40/80-GB DLT Tape Drive, External (Carbon) (Japan)	146197-293
HP StorageWorks Rackmount DLT 40/80, 3U (Single Drive)	274332-B21
HP StorageWorks Rackmount DLT 40/80, Dual Drive 3U (Two Drives)	274335-B21
HP StorageWorks Rackmount DLT 40/80, Tape Array III, 5U (Four Drives)	274337-B21

Note: Please see the 40/80-GB DLT Drive QuickSpecs for additional options such as host bus adapters, controllers, cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10658\\_div/10658\\_div.HTML](http://www5.compaq.com/products/quickspecs/10658_div/10658_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/10658\\_na/10658\\_na.HTML](http://www5.compaq.com/products/quickspecs/10658_na/10658_na.HTML) (North America)

**External DLT VS Tape Drives**

HP StorageWorks DLT VS 40/80 Tape Drive, External (Carbon) All	280129-B22
HP StorageWorks DLT VS 40/80 Tape Drive, External (Carbon) (WW)	280129-B31
HP StorageWorks DLT VS 40/80 Tape Drive, External (Carbon) (Japan)	280129-291

Note: Please see the DLT VS 40/80 Tape Drive QuickSpecs for additional options such as host bus adapters, controllers, cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/11403\\_div/11403\\_div.HTML](http://www5.compaq.com/products/quickspecs/11403_div/11403_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/11403\\_na/11403\\_na.HTML](http://www5.compaq.com/products/quickspecs/11403_na/11403_na.HTML) (North America)

HP StorageWorks Rackmount SDLT 110/220, 3U (Single Drive)	274331-B21
HP StorageWorks Rackmount SDLT 110/220, Dual-Drive, 3U (Two Drives)	274334-B21
HP StorageWorks Rackmount SDLT 110/220, Tape Array III, 5U (Four Drives)	274336-B21

Note: Please see the SDLT 110/220-GB Tape Drive QuickSpecs for additional options such as adapters, controllers, and media, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10772\\_div/10772\\_div.HTML](http://www5.compaq.com/products/quickspecs/10772_div/10772_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/10772\\_na/10772\\_na.HTML](http://www5.compaq.com/products/quickspecs/10772_na/10772_na.HTML) (North America)

HP StorageWorks SDLT 160/320, External NA (carbon)	257319-001
HP StorageWorks SDLT 160/320, External WW (carbon)	257319-B31
HP StorageWorks SDLT 160/320, External Japan (carbon)	257319-291

Note: Please see the SDLT 160/320-GB Tape Drive QuickSpecs for additional options such as adapters, controllers, and media, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/11406\\_div/11406\\_div.HTML](http://www5.compaq.com/products/quickspecs/11406_div/11406_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/11406\\_na/11406\\_na.HTML](http://www5.compaq.com/products/quickspecs/11406_na/11406_na.HTML) (North America)

## Options

## Tape Drives (continued)

**External SuperLoader**

DLT1 1280 SuperLoader	268664-B21
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Note: Please see the *StorageWorks* DLT1 1280 SuperLoader QuickSpecs for additional options and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/11330\\_div/11330\\_div.HTML](http://www5.compaq.com/products/quickspecs/11330_div/11330_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/11330\\_na/11330\\_na.HTML](http://www5.compaq.com/products/quickspecs/11330_na/11330_na.HTML) (North America)

**External AIT Autoloader**

HP StorageWorks AIT 35 GB Autoloader, Rackmount (Carbon) (NA)	280349-001
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HP StorageWorks AIT 35 GB Autoloader, Rackmount (Carbon) (Int'l)	280349-B31
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Note: Please see the AIT 35-GB Autoloader QuickSpecs for additional options such as adapters, controllers, and cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/11404\\_div/11404\\_div.HTML](http://www5.compaq.com/products/quickspecs/11404_div/11404_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/11404\\_na/11404\\_na.HTML](http://www5.compaq.com/products/quickspecs/11404_na/11404_na.HTML) (North America)

**External DAT Autoloader**

20/40-GB DAT 8 Cassette Autoloader External (Opal)	166505-001
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20/40-GB DAT 8 Cassette Autoloader External (Opal) (Int'l)	166505-B31
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20/40-GB DAT 8 Cassette Autoloader External (Opal) (Japan)	166505-291
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Note: Please see the 20/40-GB DAT DDS-4 8 Cassette Autoloader QuickSpecs for additional options such as adapters, controllers, and cassettes, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://www5.compaq.com/products/quickspecs/10518\\_div/10518\\_div.HTML](http://www5.compaq.com/products/quickspecs/10518_div/10518_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/10518\\_na/10518\\_na.HTML](http://www5.compaq.com/products/quickspecs/10518_na/10518_na.HTML) (North America)

**Rackmount Tape Drive Kits**

3U Rackmount Kit	274338-B21
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Note: The 3U Rackmount Kit (PN 274338-B21) can support up to (2) full-height or (4) half-height tape drives and compatible with multiple Single-Ended and LVD SCSI Tape Drives including the 12/24-GB DAT, 20/40-GB DAT, 20/40-GB DAT DDS-4 8 Cassette Autoloader, AIT 35-GB LVD, AIT 50-GB, 20/40-GB DLT, 40/80-GB DLT, and the SDLT 110/220GB Tape Drives.

5U Rackmount Kit	274339-B21
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Note: The 5U Rackmount Kit (PN 274339-B21) can support up to (4) full-height tape drives and is compatible with all Compaq DLT/SDLT tape drives including the 20/40-GB DLT, 35/70-GB DLT, 40/80-GB DLT, and the SDLT 110/220-GB tape drives.

Note: Please see the Compaq Rackmount Tape Drive Kits QuickSpecs for additional information regarding these kits, please see the following:

[http://www5.compaq.com/products/quickspecs/10854\\_div/10854\\_div.HTML](http://www5.compaq.com/products/quickspecs/10854_div/10854_div.HTML) (Division/World Wide)

[http://www5.compaq.com/products/quickspecs/10854\\_na/10854\\_na.HTML](http://www5.compaq.com/products/quickspecs/10854_na/10854_na.HTML) (North America)

**Rackmount Tape Drive Cable Kits**

LVD Cable Kit, VHDCI/HD68	168048-B21
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Note: For use with the 3U RM Storage Enclosure and DLT Tape Array III only.

LVD Cable Kit, HD68/HD68	242381-B21
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Note: For use with the 3U RM Storage Enclosure and DLT Tape Array III only.

## Options

## Tape Automation

**Entry Level Tape Libraries****SSL2020 Automated AIT Library**

SSL2020 AIT Mini-Library 1 drive, 20 slot Rackmount	175196-B21
SSL2020 AIT Mini-Library 2 drive, 20 slot Rackmount	175196-B22
SSL2020 AIT Library Pass Thru with Transport	175312-B21
SSL2020 AIT Library Pass Thru Extender	175312-B22
AIT 50-GB Drive Add-On LVD Drive for SSL2020 AIT Library	175197-B21

**Required Adapters/Controllers for SSL2020 AIT Library**

64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21
64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter (Japan)	129803-291
SAN Access Module for Smart Array 5302 Controller	216687-B21
SAN Access Module for Smart Array 5302 Controller (Japan)	216687-291
Smart Array 5302/FC Controller	216688-B21
Smart Array 5302/FC Controller (Japan)	216688-291

Note: Please see the SSL2020 Automated AIT Tape Library Solution QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://www5.compaq.com/products/quickspecs/10580\\_na/10580\\_na.HTML](http://www5.compaq.com/products/quickspecs/10580_na/10580_na.HTML) (North America)

[http://www5.compaq.com/products/quickspecs/10580\\_div/10580\\_div.HTML](http://www5.compaq.com/products/quickspecs/10580_div/10580_div.HTML) (Division/World Wide)

**MSL5000 Libraries****Mainstream Tape Library****MSL5026DLX DLT Library**

MSL5026DLX, 1 40/80-GB DLT, LVD Rackmount	231891-B21
MSL5026DLX, 2 40/80-GB DLT, LVD Rackmount	231891-B22

**MSL5026SL SDLT Library**

MSL5026SL Library, SDLT 110/220, 1 Drive, LVD, Rackmount	231892-B21
MSL5026SL Library, SDLT 110/220, 2 Drives, LVD, Rackmount	231892-B22
MSL5K Field Upgrade SDLT 110/220 Drive, LVD	231823-B22

Note: Please see the *StorageWorks* MSL5026DLX or MSL5026SL Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://www5.compaq.com/products/quickspecs/10860\\_na/10860\\_na.HTML](http://www5.compaq.com/products/quickspecs/10860_na/10860_na.HTML) (North America)

[http://www5.compaq.com/products/quickspecs/10860\\_div/10860\\_div.HTML](http://www5.compaq.com/products/quickspecs/10860_div/10860_div.HTML) (Division/World Wide)

**Departmental Tape Library****MSL5052SL SDLT Library**

MSL5052, 0 Drive, LVD, Rackmount	255102-B21
MSL5052SL, SDLT, 110/220, 2 Drives, LVD, Rackmount	249491-B21
MSL5K Field Upgrade SDLT 110/220 Drive, LVD	231823-B22

Note: Please see the *StorageWorks* MSL5052SL Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://www5.compaq.com/products/quickspecs/11061\\_na/11061\\_na.HTML](http://www5.compaq.com/products/quickspecs/11061_na/11061_na.HTML) (North America)

[http://www5.compaq.com/products/quickspecs/11061\\_div/11061\\_div.HTML](http://www5.compaq.com/products/quickspecs/11061_div/11061_div.HTML) (Division/World Wide)

**Required Adapters for MSL5000 series Libraries**

64-Bit/66-Mhz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21
64-Bit/66-Mhz Dual Channel Wide Ultra3 SCSI Adapter (Japan)	129803-291

## Options

## Tape Automation (continued)

**Enterprise 9000 System Library****ESL9198SL SDLT Library**

ESL9198 Enterprise Library LVD, 0 Drives	194993-B21
ESL9198SL Enterprise Library, LVD 4 110/220 SDLT Drives	234618-B21
ESL9198SL Enterprise Library, LVD 8 110/220 SDLT Drives	234618-B22
ESL9000 Field Upgrade SDLT 110/220, LVD Drive (ESL9198SL, ESL9326SL only)	234617-B21

Note: Please see the *StorageWorks* ESL9198SL Enterprise Library QuickSpecs for additional information including Tape Drives, Cartridges, Controllers, and SCSI Cables and additional options needed for a complete solution at:

[http://www5.compaq.com/products/quickspecs/10867\\_na/10867\\_na.HTML](http://www5.compaq.com/products/quickspecs/10867_na/10867_na.HTML) (North America)

[http://www5.compaq.com/products/quickspecs/10867\\_div/10867\\_div.HTML](http://www5.compaq.com/products/quickspecs/10867_div/10867_div.HTML) (World Wide)

**Required Adapters for ESL9198 Libraries**

64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21
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Note: 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter is required to support the LVD based libraries (ESL9198DLX).

64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter (Japan)	129803-291
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Note: 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter is required to support the LVD based libraries (ESL9198DLX).

**ESL9326SL SDLT Library**

ESL9326SL Enterprise Library LVD 0 Drives	234488-B21
ESL9326SL Enterprise Library LVD 6 110/220 SDLT Drives	234615-B21
ESL9326SL Enterprise Library LVD 8 110/220 SDLT Drives	234615-B22
ESL9326SL Enterprise Library LVD 16 110/220 SDLT Drives	234615-B26
ESL9000 Field Upgrade SDLT 110/220, LVD Drive (ESL9198SL, ESL9326SL, ESL9595)	234617-B21

**Required Adapters for ESL9326SL Libraries**

64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21
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Note: 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter is required to support the LVD based libraries (ESL9326SL).

64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter (Japan)	129803-291
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Note: 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter is required to support the LVD based libraries (ESL9326SL).

Note: Please see the *StorageWorks* ESL9326SL Enterprise Library QuickSpecs for additional information including Tape Drives, Cartridges, Controllers, and SCSI Cables and additional options needed for a complete solution at:

[http://www5.compaq.com/products/quickspecs/10868\\_na/10868\\_na.HTML](http://www5.compaq.com/products/quickspecs/10868_na/10868_na.HTML) (North America)

[http://www5.compaq.com/products/quickspecs/10868\\_div/10868\\_div.HTML](http://www5.compaq.com/products/quickspecs/10868_div/10868_div.HTML) (World Wide)

**ESL9595SL SDLT Library**

ESL9595SL Enterprise Library, 400 slot, 2 Drive	274672-B21
ESL9595SL Enterprise Library, 400 slot, 16 Drive	274672-B22
ESL9595SL Enterprise Library, 500 slot, 2 Drive	281627-B22
ESL9595SL Enterprise Library, 500 slot, 16 Drive	281627-B24
ESL9595SL Enterprise Library, 595 slot, 2 Drive	281628-B25
ESL9595SL Enterprise Library, 595 slot, 16 Drive	281628-B26
ESL9595 500 Slot Upgrade	274674-B21
ESL9595 595 Slot Upgrade	274674-B22
ESL9000 Field Upgrade SDLT 110/220, LVD Drive (ESL9198SL, ESL9326SL, ESL9595SL)	234617-B21

## Options

Tape Automation (continued)	<b>Required Adapters for ESL9595SL Libraries</b>		
	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter	129803-B21	
	Note: 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter is required to support the LVD based libraries (ESL9595SL).		
	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter (Japan)	129803-291	
Note: 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter is required to support the LVD based libraries (ESL9595SL).			
Note: Please see the <i>StorageWorks</i> ESL9595SL Enterprise Library QuickSpecs for additional information including Tape Drives, Cartridges, Controllers, and SCSI Cables and additional options needed for a complete solution at:			
<a href="http://www5.compaq.com/products/quickspecs/11332_na/11332_na.HTML">http://www5.compaq.com/products/quickspecs/11332_na/11332_na.HTML</a> (North America)			
<a href="http://www5.compaq.com/products/quickspecs/11332_div/11332_div.HTML">http://www5.compaq.com/products/quickspecs/11332_div/11332_div.HTML</a> (World Wide)			
External Storage - Rack	<i>StorageWorks</i> Enclosure Model 4314R (rack-mountable) by Compaq	190209-001	
	<i>StorageWorks</i> Enclosure Model 4314R (rack-mountable) (Int'l)	190209-B31	
	<i>StorageWorks</i> Enclosure Model 4314R (rack-mountable) (Japan)	190209-291	
	<i>StorageWorks</i> Enclosure Model 4354R (rack-mountable)	190211-001	
	<i>StorageWorks</i> Enclosure Model 4354R (rack-mountable) (Int'l)	190211-B31	
	<i>StorageWorks</i> Enclosure Model 4354R (rack-mountable) (Japan)	190211-291	
	Note: The <i>StorageWorks</i> Enclosure 4300 Family support the Wide Ultra2/Ultra3 1" Hot Plug Hard Drives.		
	<i>StorageWorks</i> Enclosure 4200 Redundant Power Supply Option	119826-B21	
	<i>StorageWorks</i> Enclosure 4200 Ultra3 Single Bus I/O Module Option	190212-B21	
	<i>StorageWorks</i> Enclosure 4200 Ultra3 Dual Bus I/O Module Option	190213-B21	
	<i>StorageWorks</i> Enclosure Tower to Rack Conversion Kit	150213-B21	
	<b>StorageWorks RAID Array 4100</b>	<i>StorageWorks</i> Raid Array 4100 (rack)	146013-001
<i>StorageWorks</i> Raid Array 4100 (rack) (Int'l)		146013-B31	
<i>StorageWorks</i> Raid Array 4100 (rack) (Japan)		146013-291	
Fibre Channel Storage Hub 7		234453-001	
Fibre Channel Storage Hub 7 (Int'l)		234453-B31	
Fibre Channel Storage Hub 7 (Japan)		234453-291	
Compaq Storage Hub 7 Universal Rack Mount Kit		136127-B21	
<i>StorageWorks</i> Fibre Channel Arbitrated Loop Switch 8		177862-B21	
<i>StorageWorks</i> Fibre Channel Arbitrated Loop Switch 8 (Japan)		177862-291	
<i>StorageWorks</i> Fibre Channel Arbitrated Loop 3-Port Expansion Module		177863-B21	
<i>StorageWorks</i> Fibre Channel SAN Switch 8-EL		176219-B21	
<i>StorageWorks</i> Fibre Channel SAN Switch 16-EL		212776-B21	
Fibre Channel SAN Switch 8-port with Fabric Operating Software		158222-B21	
64-bit/66-MHz Fibre Channel Host Adapter		120186-B21	
64-bit/66-MHz Fibre Channel Host Adapter (Japan)		120186-291	
GBIC-SW Connector Kit (two each)		234459-B21	
GBIC-LW Connector Kit (two each)		340412-B21	
Fibre Channel Connection Kit, 3 SW GBICS, 2 Cables		380579-B21	
Fibre Channel Connection Kit, 2 SW GBICS, 2 Cables		380596-B21	
Fibre Channel Short Wave GBIC		380561-B21	
Fibre Channel Long Wave GBIC		127508-B21	
Fibre Channel Array Controller 64-MB Cache Upgrade Kit		262398-B21	
2m Multi-Mode Fibre Channel Cable		234457-B21	
5m Multi-Mode Fibre Channel Cable		234457-B22	
15m Multi-Mode Fibre Channel Cable		234457-B23	
30m Multi-Mode Fibre Channel Cable		234457-B24	
50m Multi-Mode Fibre Channel Cable		234457-B25	
Note: Please see the <i>StorageWorks</i> RAID Array 4100 QuickSpecs for FC Hubs, FC switches, software support, host adapters/controllers, disks, and options for complete solutions at:			
<a href="http://www5.compaq.com/products/quickspecs/10435_na/10435_na.HTML">http://www5.compaq.com/products/quickspecs/10435_na/10435_na.HTML</a> (North America)			
<a href="http://www5.compaq.com/products/quickspecs/10435_div/10435_div.HTML">http://www5.compaq.com/products/quickspecs/10435_div/10435_div.HTML</a> (Division/World Wide)			

## Options

<b>StorageWorks Modular Array 8000/Enterprise Modular Array 12000</b>	EMA12000 D14 60Hz	175990-B21
	EMA12000 D14 50Hz	175990-B22
	EMA12000 S14 60Hz	175991-B21
	EMA12000 S14 50Hz	175991-B22
	MA8000 60Hz	175992-B21
	MA8000 50Hz	175992-B22
	EMA12000 Blue 60Hz	175993-B21
	EMA12000 Blue 50Hz	175993-B22
	<i>StorageWorks 64-Bit/33-MHz PCI-to-Fibre Channel Host Bus Adapter for NT</i>	176479-B21
Note: Options include controller, solution kits, ACS. MA8000/EMA12000 includes controller shelf, drive shelves and cabinet. Packaging upgrade to RA8000/ESA12000.		
Note: Please see the <i>StorageWorks</i> MA8000/EMA12000 QuickSpecs for FC switches, platform software, host adapters, disks and options for complete solutions at: <a href="http://www5.compaq.com/products/quickspecs/10545_na/10545_na.HTML">http://www5.compaq.com/products/quickspecs/10545_na/10545_na.HTML</a> (North America) <a href="http://www5.compaq.com/products/quickspecs/10545_div/10545_div.HTML">http://www5.compaq.com/products/quickspecs/10545_div/10545_div.HTML</a> (Division/World Wide)		
<b>StorageWorks Enterprise Modular Array 16000 FC</b>	EMA16000 D14 50Hz (opal)	238792-B22
	EMA16000 D14 60Hz (opal)	238792-B21
	EMA16000 S14 50Hz (opal)	238791-B22
	EMA16000 S14 60Hz (opal)	238791-B21
	<i>StorageWorks 64-Bit/33-MHz PCI-to-Fibre Channel Host Bus Adapter for NT</i>	176479-B21
Note: Models include: Dual HSG80 controllers in each Model 2200 enclosure (2 pairs per single bus configuration, 4 pairs per dual bus configuration) with 1GB cache per controller pair, and 12 14-bay drive enclosures with redundant power supplies. Configure-to-Order (CTO) builds are available. Options include ACS, platform kits and <i>SANworks™</i> software by Compaq.		
Note: Please see the <i>StorageWorks</i> EMA16000 QuickSpecs for FC switches, platform software, host adapters, disks and options for complete solutions at: <a href="http://www5.compaq.com/products/quickspecs/10812_na/10812_na.HTML">http://www5.compaq.com/products/quickspecs/10812_na/10812_na.HTML</a> (North America) <a href="http://www5.compaq.com/products/quickspecs/10812_div/10812_div.HTML">http://www5.compaq.com/products/quickspecs/10812_div/10812_div.HTML</a> (Division/World Wide)		
<b>StorageWorks Options</b>	Fibre Channel SAN Switch/8 with Fabric Operating Software	158222-B21
	<i>StorageWorks</i> SAN Switches Integrated/32	230616-B21
	<i>StorageWorks</i> SAN Switches Integrated/64	230617-B21
	<i>StorageWorks</i> Fibre Channel SAN Switches 8-EL	176219-B21
	<i>StorageWorks</i> Fibre Channel SAN Switches 16-EL	212776-B21
<b>Compaq UPS Power Cord Reference Guide</b>	<i>Please see the Compaq UPS Power Cord Reference Guide that lists cable descriptions, requirements, and specifications for Compaq UPS units.</i> <a href="ftp://ftp.compaq.com/pub/products/servers/proliantstorage/power-protection/powercordmatrix.pdf">ftp://ftp.compaq.com/pub/products/servers/proliantstorage/power-protection/powercordmatrix.pdf</a>	
<b>Uninterruptible Power Systems – Rack Mountable</b>	Compaq UPS R1500 XR (1440VA, 1340 Watt), Low Voltage (NA)	204404-001
	Compaq UPS R1500 XR (1500VA, 1340 Watt), High Voltage (Int'l)	204404-B31
	Compaq UPS R1500 XR (1500VA, 1340 Watt), Low Voltage (Japan)	204404-291
	Compaq UPS R3000 XR (2880VA, 2700 Watt), Low Voltage (NA)	192186-001
	Compaq UPS R3000 XR (3000VA, 2700 Watt), High Voltage (NA)	192186-002
	Compaq UPS R3000 XR (2400VA, 2250 Watt), Low Voltage (Japan)	192186-291
	Compaq UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Japan)	192186-292
	Compaq UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Int'l - detachable cord)	192186-B31
	Compaq UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A IEC309 Plug)	192186-B32
	Compaq UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A CEE 7/7 SCHUKO Plug)	192186-B33
	Compaq UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A BS-546 Plug)	192186-AR1
	Rack-Mountable UPS R6000 (6000VA, 6000 Watt) High Voltage (NA)	347207-001
	Rack-Mountable UPS R6000 (6000VA, 6000 Watt) High Voltage (Int'l)	347207-B31
	Rack-Mountable UPS R6000 (6000VA, 6000 Watt) High Voltage (Japan)	347207-291
Compaq UPS R12000 XR, N+x (12KVA, 12KW)	207552-B22	



## Options

UPS Options	SNMP Serial Port Card	192189-B21
	<i>Note: Supports tower and rack UPS XR models ranging from 1000 – 3000VA.</i>	
	Six Port Card	192185-B21
	<i>Note: Supports tower and rack UPS XR models ranging from 1000 – 3000VA.</i>	
	High to Low Voltage Transformer (250VA)	388643-B21
	<i>Note: Supports R6000 UPS series only. 2.5 amps @ 125 Volts max output across two Nema 5-15.</i>	
	Extended Runtime Module, R1500 XR	218971-B21
	<i>Note: 2U each, two ERM maximum.</i>	
	Extended Runtime Module, R3000 XR	192188-B21
	<i>Note: 3U each, one ERM maximum.</i>	
	Extended Runtime Module, R6000	347224-B21
	<i>Note: 3U each, two ERM maximum.</i>	
	Extended Runtime Module, R12000 XR, 4U	217800-B21
SNMP-EN Adapter	347225-B21	
<i>Note: Supports R6000 UPS series only.</i>		
Multi-Server UPS Card	123508-B21	
<i>Note: Supports R6000 UPS series only.</i>		
Scalable UPS Card	123509-B21	
<i>Note: Supports R6000 UPS series only.</i>		
<b>Rack-Mountable PDUs – 1U/0U</b> (Up to 12 outlets)	Compaq Power Distribution Unit-40A (200 to 240V)	207590-B23
	<i>Note: Please see the following Power Distribution Unit (Zero-U/1U PDU) QuickSpecs for additional options including cables:</i>	
	<a href="http://www5.compaq.com/products/quickspecs/10838_na/10838_na.HTML">http://www5.compaq.com/products/quickspecs/10838_na/10838_na.HTML</a> (North America)	
	<a href="http://www5.compaq.com/products/quickspecs/10838_div/10838_div.HTML">http://www5.compaq.com/products/quickspecs/10838_div/10838_div.HTML</a> (Division/World Wide)	
<b>Modular PDUs 1U/0U</b> (Up to 32 outlets)	Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) (NA, Japan)	252663-D71
	<i>Note: The Modular PDUs Model 24A &amp; 32A need to plug-in the DL590/64 directly into the Control Unit.</i>	
	Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC) (NA, Japan)	252663-D72
	<i>Note: The Modular PDUs Model 24A &amp; 32A need to plug-in the DL590/64 directly into the Control Unit.</i>	
	Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
<i>Note: The Modular PDUs Model 24A &amp; 32A need to plug-in the DL590/64 directly into the Control Unit.</i>		
Modular Power Distribution Units (mPDU), High Volt Model, 40A (200-240 VAC) (WW)	252663-B21	
<i>Note: Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including cables:</i>		
	<a href="http://www5.compaq.com/products/quickspecs/11041_na/11041_na.HTML">http://www5.compaq.com/products/quickspecs/11041_na/11041_na.HTML</a> (North America)	
	<a href="http://www5.compaq.com/products/quickspecs/11041_div/11041_div.HTML">http://www5.compaq.com/products/quickspecs/11041_div/11041_div.HTML</a> (Division/World Wide)	
<b>Rack Builder</b>	<i>Please see the Compaq Rack Builder for configuration assistance at <a href="http://www.compaq.com/rackbuilder/">http://www.compaq.com/rackbuilder/</a></i>	
<b>Compaq Rack 10000 Series</b> (Graphite Metallic)	Compaq Rack 10842 (42U, 800mm wide) – Pallet	257415-B21
	Compaq Rack 10842 (42U, 800mm wide) – Shock Pallet	257415-B22
	<i>Note: Not available in North America</i>	
	Compaq Rack 10647 (47U) – Pallet	245160-B21
	Compaq Rack 10647 (47U) – Crated	245160-B23
	Compaq Rack 10642 (42U) – Pallet	245161-B21
	Compaq Rack 10642 (42U) – Shock Pallet	245161-B22
	Compaq Rack 10642 (42U) – Crated	245161-B23
	Compaq Rack 10636 (36U) – Pallet	245162-B21
	Compaq Rack 10636 (36U) – Shock Pallet	245162-B22
	Compaq Rack 10636 (36U) – Crate	245162-B23

# QuickSpecs

Compaq ProLiant DL590/64

## Options

<b>Compaq Rack 10000 Series</b> (Graphite Metallic) ( <i>continued</i> )	Compaq Rack 10622 (22U) – Pallet	245163-B21	
	Compaq Rack 10622 (22U) – Shock Pallet	245163-B22	
	Compaq Rack 10622 (22U) – Crated	245163-B23	
	Note: -B21 (pallet) used to ship empty racks shipped on a truck -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels) -B23 (crated) used for air shipments of empty racks		
<b>Compaq Rack 9000 Series</b> (Opal)	Compaq Rack 9142 (42U) – Pallet	120663-B21	
	Compaq Rack 9142 (42U) – Shock Pallet	120663-B22	
	Compaq Rack 9142 (42U) – Crated	120663-B23	
	Compaq Rack 9136 (36U) – Pallet	120664-B21	
	Compaq Rack 9136 (36U) – Shock Pallet	120664-B22	
	Compaq Rack 9136 (36U) – Crated	120664-B23	
	Compaq Rack 9122 (22U) – Pallet	120665-B21	
	Compaq Rack 9122 (22U) – Shock Pallet	120665-B22	
	Compaq Rack 9122 (22U) – Crated	120665-B23	
	Compaq Rack 9842 (800mm wide, 42U) – Pallet	222192-B21	
	Note: -B21 (pallet) used to ship empty racks shipped on a truck -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels) -B23 (crated) used for air shipments of empty racks		
	<b>Rack Options for Compaq Rack 10000 Series</b>	Rack Blanking Panels – Graphite (Multi)	253214-B26
		Note: Contains one each of 1U, 2U, 3U, and 4U panel	
Rack Blanking Panels – Graphite (1U)		253214-B21	
Note: The Rack Blanking Panels (PN 253214-B21) contains 10 each of (1U).			
Rack Blanking Panels – Graphite (2U)		253214-B22	
Note: The Rack Blanking Panels (PN 253214-B21) contains 10 each of (2U).			
Rack Blanking Panels – Graphite (3U)		253214-B23	
Note: The Rack Blanking Panels (PN 253214-B21) contains 10 each of (3U).			
Rack Blanking Panels – Graphite (4U)		253214-B24	
Note: The Rack Blanking Panels (PN 253214-B21) contains 10 each of (4U).			
Rack Blanking Panels – Graphite (5U)		253214-B25	
Note: The Rack Blanking Panels (PN 253214-B21) contains 10 each of (5U).			
800mm Wide Stabilizer Kit (Graphite)		255488-B21	
Note: Supported by the Rack 10842 cabinet only.			
600mm Stabilizer Kit – Graphite		246107-B21	
Baying Kit for Rack 10000 series (Carbon)		248929-B21	
42U Side Panel – Graphite Metallic		246099-B21	
110V Fan Kit (Graphite)	257413-B21		
Note: Roof Mount Includes power cord with IEC320-C13 to Nema 5-15P.			
220V Fan Kit (Graphite)	257414-B21		
Note: Roof Mount Includes power cord with IEC320-C13 to Nema 6-15P.			
36U Side Panel – Graphite Metallic	246102-B21		
47U Side Panel – Graphite Metallic	255486-B21		
9000/10000 Series Offset Baying Kit	248931-B21		
Note: This kit can be used to connect 9000 and 10000 series racks of the same U height together. Kit contents include hardware for connecting racks and a panel to cover the 100mm gap at the rear of the two racks.			

# QuickSpecs

Compaq ProLiant DL590/64

## Options

<b>Rack Options for Compaq Rack 9000 Series</b>	Baying/Coupling Kit	120669-B21
	42U Side Panel	120670-B21
	Note: The 42U Side Panel (PN 120670-B21) supports the Compaq Rack 9142 and Compaq Rack 9842.	
	36U Side Panel	120671-B21
	Note: The 36U Side Panel (PN 120671-B21) supports the Compaq Rack 9136.	
	800mm Stabilizer Option Kit (Opal)	234493-B21
	Note: The 800mm Stabilizer Kit (PN 234493-B21) supports the Rack 9842 only.	
	600mm Stabilizer Option Kit	120673-B21
	9142 Extension Kit	120679-B21
	Note: The 9142 Extension Kit (PN 120679-B21) supports the Compaq Rack 9142 only.	
	9142 Split Rear Door	254045-B21
	Note: The 9142 Split Rear Door (PN 254045-B21) supports the 600 mm wide, 42U 9000 series rack.	
	9136 Extension Kit	218216-B21
	9142 Short Rear Door	218217-B21
	Note: The 9142 Short Rear Door (PN 218217-B21) supports the Compaq Rack 9142 only.	
	9136 Short Rear Door	218218-B21
	9122 Short Rear Door (Opal)	218219-B21
	Rack Blanking Panel (Multi)	169940-B21
	Note: Kit includes four panels in 1U, 2U, 4U, and 8U.	
	Rack Blanking Panels (1U)	189453-B21
	Note: The Rack Blanking Panels (PN 189453-B21) contains 10 each of (1U).	
	Rack Blanking Panels (2U)	189453-B22
	Note: The Rack Blanking Panels (PN 189453-B22) contains 10 each of (2U).	
Rack Blanking Panels (3U)	189453-B23	
Note: The Rack Blanking Panels (PN 189453-B23) contains 10 each of (3U).		
Rack Blanking Panels (4U)	189453-B24	
Note: The Rack Blanking Panels (PN 189453-B24) contains 10 each of (4U).		
Rack Blanking Panels (5U)	189453-B25	
Note: The Rack Blanking Panels (PN 189453-B25) contains 10 each of (5U).		
800mm Stabilizer Option Kit (Opal)	234493-B21	
Note: The 800mm Stabilizer Kit (PN 234493-B21) supports the Rack 9842 only.		
9000/10000 Series Offset Baying Kit	248931-B21	
Note: This kit can be used to connect 9000 and 10000 series racks of the same U height together. Kit contents include hardware for connecting racks and a panel to cover the 100mm gap at the rear of the two racks.		
<b>Rack Options for Compaq Rack 7000 Series</b>	High Air Flow Rack Door Insert for the 7122 Rack	157847-B21
	High Air Flow Rack Door Insert for the 7142 Rack (single)	327281-B21
	High Air Flow Rack Door Insert for the 7142 Rack (6-pack)	327281-B22
	Compaq Networking Cable Management Kit	292407-B21
	Compaq Networking Recessed Rail Management Kit	292406-B21
	Compaq Rack Extension Kit for 7142	154392-B21

## Options

Rack Options for Compaq Rack 7000, 9000 and 10000 Series	Monitor Utility Shelf	303606-B21
	Ballast Option Kit	120672-B21
	Stabilizer Option Kit	120673-B21
	100kg Sliding Shelf	234672-B21
	Rack Rail Adapter Kit (25" depth)	120675-B21
	Monitor/Utility Shelf - Graphite	253449-B21
	Depth Adjustable Fixed Rail	332558-B21
	Cable Management D-Rings Kit	168233-B21
	Console Management Controller (CMC) Option Kit	203039-B21
	Console Management Controller (CMC) Sensors Option Kit	203039-B22
	Console Management Controller (CMC) Locking Option Kit	203039-B23
	Console Management Controller (CMC) Smoke Sensors Option Kit	203039-B24
	Server Console Switch 1 x 2 port (100 to 230 VAC)	120206-001
	Server Console Switch 1 x 2 port (100 to 230 VAC) (Int'l)	120206-B31
	Server Console Switch 1 x 2 port (100 to 230 VAC) (Japan)	120206-291
	Server Console Switch 1 x 4 port (100 to 230 VAC)	400336-001
	Server Console Switch 1 x 4 port (100 to 230 VAC) (Int'l)	400336-B31
	Server Console Switch 1 x 4 port (100 to 230 VAC) (Japan)	400336-291
	Server Console Switch 1 x 8 port (100 to 230 VAC)	400337-001
	Server Console Switch 1 x 8 port (100 to 230 VAC) (Int'l)	400337-B31
	Server Console Switch 1 x 8 port (100 to 230 VAC) (Japan)	400337-291
	Server Console Switch 2 x 8 port (100 to 230 VAC)	400338-001
	Server Console Switch 2 x 8 port (100 to 230 VAC) (Int'l)	400338-B31
	Server Console Switch 2 x 8 port (100 to 230 VAC) (Japan)	400338-291
	Server Console Switch 2 x 8 port (48VDC)	400542-B21
	CPU to Server Console Cable, 12'	110936-B21
	CPU to Server Console Cable, 20'	110936-B22
	CPU to Server Console Cable, 40'	110936-B23
	CPU to Server Console Cable, 3'	110936-B24
	CPU to Server Console Cable, 7'	110936-B25
	CPU to Server Console Cable (Plenum Rated) 20'	149363-B21
	CPU to Server Console Cable (Plenum Rated) 40'	149364-B21
	Switch Box Connector Kit (115V)	144007-001
	Switch Box Connector Kit (230V)	144007-002
	Switch Box Connector Kit (high voltage)	144007-B33
	KVM 9 PIN Adapter (4 Pack)	149361-B21
	TFT5600 RKM Rack Keyboard Monitor (US)	221546-001
	TFT5600 RKM Rack Keyboard Monitor (UK)	221546-031
	TFT5600 RKM Rack Keyboard Monitor (Germany)	221546-041
	TFT5600 RKM Rack Keyboard Monitor (France)	221546-051
	TFT5600 RKM Rack Keyboard Monitor (Italy)	221546-061
	TFT5600 RKM Rack Keyboard Monitor (Spain)	221546-071
	TFT5600 RKM Rack Keyboard Monitor (Denmark)	221546-081
	TFT5600 RKM Rack Keyboard Monitor (Norway)	221546-091
	TFT5600 RKM Rack Keyboard Monitor (Sweden/Finland)	221546-101
TFT5600 RKM Rack Keyboard Monitor (Swiss)	221546-111	
TFT5600 RKM Rack Keyboard Monitor (Portugal)	221546-131	
TFT5600 RKM Rack Keyboard Monitor (Belgium)	221546-181	
TFT5600 RKM Rack Keyboard Monitor (Japan)	221546-291	
TFT5600 RKM Rack Keyboard Monitor (Int'l)	221546-B31	
Keyboard with Hot Keys and Trackball (US)	158649-001	
Keyboard with Hot Keys and Trackball (UK)	158649-003	
Keyboard with Hot Keys and Trackball (German)	158649-004	
Keyboard with Hot Keys and Trackball (French)	158649-005	
Keyboard with Hot Keys and Trackball (Italian)	158649-006	
Keyboard with Hot Keys and Trackball (Spanish)	158649-007	

## Options

<b>Rack Options for Compaq Rack 7000, 9000 and 10000 Series</b> (continued)	Keyboard with Hot Keys and Trackball (Danish)	158649-008
	Keyboard with Hot Keys and Trackball (Norwegian)	158649-009
	Keyboard with Hot Keys and Trackball (Swedish)	158649-010
	Keyboard with Hot Keys and Trackball (Swiss)	158649-011
	Keyboard with Hot Keys and Trackball (Portuguese)	158649-013
	Keyboard with Hot Keys and Trackball (Belgian)	158649-018
	Keyboard with Hot Keys and Trackball (Japan)	158649-291
	Keyboard with Hot Keys and Trackball (Int'l)	158649-B36
	PCI KVM Management Card Kit	232983-B21
	PCI KVM Remote Card Kit	232984-B21
	Local Access Cable Kit	232985-B21
	1U Rack Keyboard Drawer	338056-B21
	Keyboard/Monitor/Mouse extension cables	169989-001
<b>Service and Support Offerings</b> (CarePaq Services)	<b>Hardware Installation</b>	
	Hardware Only Installation (6-3 Part Number for US)	250151-002
	Hardware Only Installation (6-3 Part Number for EMEA)	204564-022
	<b>Installation &amp; Set-up Services</b>	
	3 Years On-Site Hardware, 4 hour response, 9 x 5 (6-3 Part Number for US)	250155-002
	3 Years On-Site Hardware, 4 hour response, 9 x 5 (6-3 Part Number for EMEA)	206972-022
	3 Years On-Site Hardware, 4 hour response, 24 x 7 (6-3 Part Number for US)	250157-002
	3 Years On-Site Hardware, 4 hour response, 24 x 7 (6-3 Part Number for EMEA)	206973-022
	Windows .NET Advanced Server LE Installation & Startup Package (6-3 Part Number for US)	277576-002
	Note: For more information, customer/resellers can contact <a href="http://www.compaq.com/services">http://www.compaq.com/services</a> .	

## Memory

## Compaq ProLiant DL590/64 800 MHz-4MB

## STANDARD MEMORY

4096-MB PC100 CL2 ECC Registered DIMM memory (two kits of 4 x 512-MB DIMMs)

## MEMORY PLUS OPTIONAL MEMORY

Up to 64-GB of PC100 CL2 ECC Registered DIMM memory is supported with the installation of optional SDRAM DIMM memory expansion kits.

Note: The second memory board ships standard with the DL590/64 800 MHz-4MB Model.

Note: 64 slots with 4 per bank. Up to 64-GB memory total. Memory must be added in banks of four DIMMs. Charts do not represent all possible configurations.

Note: Compaq strongly recommends using DIMMs supplied by Compaq. The ProLiant DL590/64 supports industry standard 168-pin PC100 CL2 ECC Registered DIMMs with the following restrictions:  $T_{dal} = 3$  Tclk,  $T_{rc} = 6$  Tclk when operating at  $T_{clk} = 15$  ns (66.67 MHz), as required by the Intel460GX chip set. The use of DIMMs that do not adhere to these restrictions may result in error messages and possible loss of data. Check with your authorized Compaq representative for correct memory.

Memory		Slot on Memory Board One															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Standard	4096 MB	512MB	512MB	512MB	512MB	512MB	512MB	512MB	512MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Maximum	64 GB	1024MB	1024MB	1024MB	1024MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Memory		Slot on Memory Board One															
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Standard	4096 MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Memory		Slot on Memory Board Two															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Standard	4096 MB	512MB	512MB	512MB	512MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Memory		Slot on Memory Board Two															
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Standard	4096 MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024

Following are memory options available from Compaq:

- 4096-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 1024 MB) 232309-B21
- 2048-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 512 MB) 232308-B21
- 1024-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 256 MB) 232307-B21

## Memory

## Compaq ProLiant DL590/64 733 MHz-2MB

## STANDARD MEMORY

1024-MB PC100 CL2 ECC Registered DIMM memory (one kit of 4 x 256-MB DIMMs)

## STANDARD MEMORY PLUS OPTIONAL MEMORY

Up to 61-GB of PC100 CL2 ECC Registered DIMM memory is supported with the installation of optional PC100 CL2 ECC Registered DIMM memory expansion kits.

## STANDARD MEMORY REPLACED WITH OPTIONAL MEMORY

Up to 64-GB of PC100 CL2 ECC Registered DIMM memory is available with the removal of standard memory and the installation of optional PC100 CL2 ECC Registered DIMM memory expansion kits.

Note: The below configurations presumes that the optional second memory board is installed.

Note: 64 slots with 4 per bank. Up to 64-GB memory total. Memory must be added in banks of four DIMMs. Charts do not represent all possible configurations.

Note: Compaq strongly recommends using DIMMs supplied by Compaq. The ProLiant DL590/64 supports industry standard 168-pin PC100 CL2 ECC Registered DIMMs with the following restrictions:  $T_{dal} = 3$  Tclks,  $T_{rc} = 6$  Tclks when operating at  $T_{clk} = 15$  ns (66.67 MHz), as required by the Intel460GX chip set. The use of DIMMs that do not adhere to these restrictions may result in error messages and possible loss of data. Check with your authorized Compaq representative for correct memory.

Memory		Slot on Memory Board One															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Standard	1024 MB	256MB	256MB	256MB	256MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Optional	61 GB	256MB	256MB	256MB	256MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024MB	1024
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Memory		Slot on Memory Board One															
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Standard	1024 MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Optional	61 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Memory		Slot on Memory Board Two															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Standard	1024 MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Optional	61 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Memory		Slot on Memory Board Two															
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Standard	1024 MB	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
Optional	61 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024
Maximum	64 GB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024 MB	1024

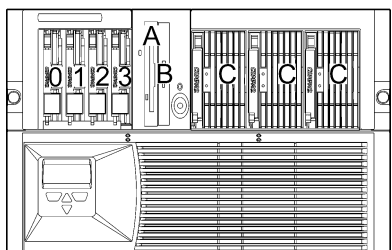
Following are memory options available from Compaq:

- 4096-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 1024 MB) 232309-B21
- 2048-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 512 MB) 232308-B21
- 1024-MB PC100 CL2 ECC Registered DIMMs Memory Expansion Kit (4 x 256 MB) 232307-B21
- Memory Board Option Kit 232305-B21

# QuickSpecs

Compaq ProLiant DL590/64

## Storage



- 0 - 3 Four 1" Ultra2/Ultra3 Hot Plug drive bays
- A Integrated LS-120 Drive
- B Integrated 24x IDE CD-ROM (Slim Line)
- C Hot Plug Power Supplies (3)

## DRIVE SUPPORT

	Quantity Supported	Position Supported	Controller
<b>Integrated Media</b>			
Integrated LS-120 Drive	Up to 1	A	Integrated IDE
Integrated 24x IDE CD-ROM Drive (Slim Line)	Up to 1	B	Integrated IDE
<b>Hard Drives</b>			
<i>Wide Ultra3 Hot Pluggable Drives</i>			
<b>1-inch</b>	Up to 4	0-3	Integrated Smart Array Controller
72.8-GB 10,000 rpm			Smart Array 532 Controller
36.4-GB 10,000 rpm			Smart Array 5302/32 Controller
18.2-GB 10,000 rpm			Smart Array 5302/64 Controller
36.4-GB 15,000 rpm			Smart Array 5302/128 Controller
18.2-GB 15,000 rpm			Smart Array 5304/128 Controller
			Smart Array 5304/256 Controller
			64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter
			64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
<b>External Storage</b>			
<i>StorageWorks</i> Enclosure 4300 Family (supports <i>Wide Ultra2/Ultra3</i> drives)	Up to 40	External	Smart Array 532 Controller
			Smart Array 5302/32 Controller
			Smart Array 5302/64 Controller
			Smart Array 5302/128 Controller
			Smart Array 5304/128 Controller
			Smart Array 5304/256 Controller
			64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter
			64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
<i>StorageWorks</i> RAID Array 4100 Kit	Up to 10 (with optional <i>StorageWorks</i> Hubs or Switches)	External	64-bit/66-MHz Fibre Channel Host Adapter
<b>Maximum Storage Capacity – (<i>StorageWorks</i> Enclosure SCSI Attached)</b>			
Internal	291.2 GB (4 x 72.8-GB hot pluggable drives)		
External	40.768 TB (40 x (14 x 72.8 GB 1" Wide Ultra3))		
Total	41.059 TB		
<b>Maximum Storage Capacity – (External RAID Array 4100 Attached)</b>			
Internal	291.2 GB (4 x 72.8-GB 1" Wide Ultra3)		
External	8.736 TB (10 x (12 x 72.8 GB 1" Wide Ultra3))		
Total	9.027 TB		



## Storage

**DRIVE SUPPORT** (continued)

	Quantity Supported	Position Supported	Controller
<b>Tape Drives</b> (External only support)			
Note: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following: <a href="http://www5.compaq.com/products/quickspecs/North_America/10233.html">http://www5.compaq.com/products/quickspecs/North_America/10233.html</a> (North America) <a href="http://www5.compaq.com/products/quickspecs/Division/10233.html">http://www5.compaq.com/products/quickspecs/Division/10233.html</a> (Division/World Wide)			
Note: For an up-to-date listing of the latest O/S Support details for each of the Tape Storage Systems listed below, please see the following: <a href="http://www5.compaq.com/products/quickspecs/North_America/10809.html">http://www5.compaq.com/products/quickspecs/North_America/10809.html</a> (North America) <a href="http://www5.compaq.com/products/quickspecs/Division/10809.html">http://www5.compaq.com/products/quickspecs/Division/10809.html</a> (Division/World Wide)			
20/40-GB DAT DDS-4 8 Cassette Autoloader	Up to 2	External	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter 64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
AIT 50-GB External AIT 35-GB LVD External	1	External	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter 64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
SDLT 110/220-GB, External	Up to 2	External	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter 64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
External 40/80-GB DLT Enhanced External 20/40-GB DLT	Up to 3 per controller	External	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter 64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
HP StorageWorks AIT 35 GB Autoloader	Up to 1 (for a single HBA) Up to 2 (for a dual HBA)	External	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter 64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
SSL2020 AIT Library	Up to 5	External	64-Bit Dual Channel Wide Ultra2 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter
MSL5026DLX (40/80GB DLT-based) MSL5026SL (SDLT-based) Library MSL5052SL (SDLT-based) Library	2 drives per SCSI channel	External	64-Bit Dual Channel Wide Ultra2 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter
DLT1 1280 SuperLoader	Up to 2	External	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter 64-Bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter
ESL9198SL ESL9326SL ESL9595SL	Please see the ESL Library QuickSpecs below to determine configuration requirements	External	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter
ESL9198SL: <a href="http://www5.compaq.com/products/quickspecs/10867_div/10867_div.HTML">http://www5.compaq.com/products/quickspecs/10867_div/10867_div.HTML</a>			
ESL9326SL: <a href="http://www5.compaq.com/products/quickspecs/10868_div/10868_div.HTML">http://www5.compaq.com/products/quickspecs/10868_div/10868_div.HTML</a>			
ESL9595SL: <a href="http://www5.compaq.com/products/quickspecs/11332_div/11332_div.HTML">http://www5.compaq.com/products/quickspecs/11332_div/11332_div.HTML</a>			

# QuickSpecs

Compaq ProLiant DL590/64

## Power Specifications

### POWER SPECIFICATIONS

Part Number	232310-B21
Spare Kit	164460-001
Operational Input Voltage Range (V rms)	90 to 264
Frequency Range (Nominal) (Hz)	47 to 63 (50/60)

Nominal Input Voltage (Vrms)	100	115	200	208	220	230	240
Max Rated Output Wattage Rating	700	700	1250	1250	1250	1250	1250
Nominal Input Current (A rms)	8.9	7.6	7.5	7.2	6.8	6.5	6.3
Max Rated Input Wattage Rating (Watts)	875	854	1471	1471	1471	1471	1471
Max. Rated VA (Volt-Amp)	893	871	1501	1501	1501	1501	1501
Efficiency (%)	80	82	85	85	85	85	85
Power Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	0.31	0.36	0.63	0.65	0.69	0.72	0.75
Maximum Inrush Current (A peak)	35	35	35	35	35	35	35
Maximum Inrush Current duration (mS)	20	20	20	20	20	20	20

### 208V OR HIGHER SYSTEM SPECIFICATIONS

#### DL590/64 Fully Configured

Up to 4 Processors, 64 Memory Slots, 4 Hard Drives, 11 PCI Slots, and 3 Hot Plug Power Supplies

Nominal Input Voltage (Vrms)	200	208	220	230	240
Fully Loaded System Input Wattage (W)	1387	1387	1387	1387	1387
Fully Loaded System Input Current (A rms)	7.0	6.8	6.4	6.2	5.9
Fully Loaded System Thermal (BTU-Hr)	4728	4728	4728	4728	4728
Fully Loaded System VA (Volt-Amp)	1415	1415	1415	1415	1415
System Leakage with all power supplies loaded (mA)	1.88	1.95	2.06	2.16	2.25
System Inrush Current with all power supplies loaded (A)	105	105	105	105	105
Power cord requirements	Nema 6-20P to IEC320-C19			Option no./Spare no.: 235604-001/237458-001	
	PDU Jumper Cord IEC320-C19 to IEC320-C20			Option no./Spare no.: 295633-B21/295508-001	

## Power Specifications

## 100/115V SYSTEM SPECIFICATIONS

## DL590/64 Fully Configured Example

With 4 Processors, 32 Memory Slots, 2 Hard Drives, 2 PCI Slots, and 3 Hot Plug Power Supplies

<b>Nominal Input Voltage (Vrms)</b>	<b>100</b>	<b>115</b>
Fully Loaded System Input Wattage (W)	1151	1123
Fully Loaded System Input Current (A rms)	11.7	10
Fully Loaded System Thermal (BTU-Hr)	3924	3829
Fully Loaded System VA (Volt-Amp)	1174	1146
System Leakage with all power supplies loaded (mA)	0.94	1.08
System Inrush Current with all power supplies loaded (A)	105	105
Power cord requirements	Nema 5-15P to IEC320-C19	Option no./Spare no.: 235603-001/237457-001
	PDU Jumper Cord IEC320-C19 to IEC320-C20	Option no./Spare no.: 295633-B21/295508-001

## Notes:

\* - To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL:

<http://activeanswers.compaq.com/aaconfiguratorcode/>

To drill down to calculators:

- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL590/64
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Power Cords (C19 Sets)	Normal Server Voltage (VAC)	Plug Style	Power Cord Part Number	Option Kit Part Number Qty. = 1	Option Kit Part Number Qty. = 25	Spares Kit Part Number
PDU Jumper Cord IEC320-C19 to IEC320-C20			242867-001	295633-B21		295508-001
<b>Country</b>						
Argentina	220					
Australia	240		295511-001		295529-011	295547-011
Austria	220-230	EURO	295477-001		295529-021	295547-002
Bahamas	120	5-15P	178968-001	235603-001		237457-001
Belgium	220-230	EURO	295477-001		295529-021	295547-002
Brazil	110-220	5-15P	178968-001	235603-001		237457-001
Canada	120	5-15P	178968-001	235603-001		237457-001
CzRch Rep	220-230	EURO	295477-001		295529-021	295547-002
Chile	220		295511-001		295529-011	295547-011
Columbia	110-220	5-15P	178968-001	235603-001		237457-001
Denmark	220-230					
Dominican Republic	110	5-15P	178968-001	235603-001		237457-001
Finland	220-230	EURO	295477-001		295529-021	295547-002
France	220-231	EURO	295477-001		295529-021	295547-002
Germany	220-232	EURO	295477-001		295529-021	295547-002
Greece	220-233	EURO	295477-001		295529-021	295547-002
Hong Kong	200	UK (13A)	295478-001	376876-001	295529-031	295547-031
Hungary	220	EURO	295477-001		295529-021	295547-002
Indonesia	220	EURO	295477-001		295529-021	295547-002
India	220-250		295510-001		295529-AR1	295547-AR1

# QuickSpecs

Compaq ProLiant DL590/64

## Power Specifications

Power Cords (C19 Sets) (continued)	Normal Server Voltage (VAC)	Plug Style	Power Cord Part Number	Option Kit Part Number Qty. = 1	Option Kit Part Number Qty. = 25	Spares Kit Part Number
Israel	230		191241-002	196820-BT1		
Italy	220-230		295553-001			
Japan	100					
Korea, S	220	EURO	295477-001		295529-021	295547-002
Mayaysia	240	UK (13A)	295478-001	376876-001	295529-031	295547-031
Mexico	127	5-15P	178968-001	235603-001		237457-001
Middle East	220	EURO	295477-001		295529-021	295547-002
Netherlands	220-230	EURO	295477-001		295529-021	295547-002
New Zealand	230		295511-001		295529-011	295547-011
Norway	220-230	EURO	295477-001		295529-021	295547-002
Philippines	115	5-15P	178968-001	235603-001		237457-001
Poland	220	EURO	295477-001		295529-021	295547-002
Portugal	220-230	EURO	295477-001		295529-021	295547-002
PRC (China)	220		295511-001		295529-011	295547-011
Puerto Rico	120	5-15P	178968-001	235603-001		237457-001
Russia	220	EURO	295477-001		295529-021	295547-002
Saudi Arabia	127-220					
Singapore	230	UK (13A)	295478-001	376876-001	295529-031	295547-031
South Africa	220-250		295510-001		295529-AR1	295547-AR1
Spain	220-230	EURO	295477-001		295529-021	295547-002
Sweden	220-230	EURO	295477-001		295529-021	295547-002
Switzerland	220-230					
Taiwan	110	5-15P	178968-001	235603-001		237457-001
Thailand	220	EURO	295477-001		295529-021	295547-002
UK & Ireland	240	UK (13A)	295478-001	376876-001	295529-031	295547-031
United States	120	5-15P	178968-001	235603-001		237457-001
Venezuela	120	5-15P	178968-001	235603-001		237457-001

## Notes:

The DL590/64 -421 sku's ship with:

- Qty 1, 125V, 5-15P/C19 cord (178968-001)
- Qty 2, 240V, 6-20P/C19 cords (177857-001)
- Qty 2, CA, IEC-to-IEC Jumper 16A (242867-001)
- Qty 2, AC Line, 16A, c-19 cords (295478-001)
- Qty 2, 250V, C19 Schucko cords (295477-001)

# QuickSpecs

## Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	12.14 x 17.5 x 27 in/30.83 x 44.45 x 68.58 cm
	<b>Shipping Dimensions (HxWxD)</b>	36.5 x 28.5 x 29 in/92.71 x 72.39 x 73.66 cm
	<b>Weight</b>	153 lb/69.4 kg
	<b>Shipping Weight Range</b>	176 to 216 lb/79.83 to 97.98 kg
	No hard drives installed, one power supply	
<b>Input Requirements</b>	Rated Input Voltage	100 to 120 VAC/200 to 240 VAC (lowline/highline)
	Rated Input Frequency	47 to 63 Hz (lowline/highline)
	Input Power	1151W/1387W (lowline/highline)
	Rated Input Current	12A at 100 VAC/7A at 200 VAC (lowline/highline)
<b>BTU Rating (Maximum output)</b> (Note that the maximum heat output by the server is equal to the electrical power input.)	1387 Watts [3924 BTU/hr/4728 BTU/hr (lowline/highline)] (System is configured to draw maximum power)	
<b>Power Supply Output Power (per power supply)</b>	Maximum Peak Power	700W/1250W (lowline/highline)
<b>Temperature Range</b>	Operating	50° to 95° F at sea level, altitude de-rating of 1.8° F per 1,000 ft to 10,000 ft (10° to 35° C at sea level, altitude de-rating of 1° C per 300 m to 3,000 m)
	Non-operating	-20° to 140° F/-29° to 60° C
	Shipping	-22° to 122° F/-30° to 50° C
<b>Relative Humidity (non-condensing)</b>	Operating	20% to 80%
	Non-operating	5% to 90%
<b>Maximum Wet Bulb Temperature</b>	101.7°F/38.7°C	
<b>Acoustic Noise</b>	Idle (Fixed Disk Drives Spinning)	
	<b>L<sub>wAd</sub> (BELS)</b>	7.0
	<b>L<sub>pAm</sub> (dBA)</b>	54
	Operating (Random Seeks to Fixed Disks)	
	<b>L<sub>wAd</sub> (BELS)</b>	7.0
	<b>L<sub>pAm</sub> (dBA)</b>	54

# QuickSpecs

Compaq ProLiant DL590/64

## Technical Specifications

<b>Power Supply</b>	<b>1250/700W, Hot Plug Redundant (1 or 2 standard)</b>	One or Three Redundant Power Supplies (optimized to provide full redundancy at 220 volts)		
	<b>Input Specifications</b>	Normal Line Voltage	100 to 120 VAC/200 to 240 VAC	
		Range Input Line	90 to 132 VAC/180 to 265 VAC	
		Frequency Range	47 to 63 Hz	
		Power Factor	0.98	
		Max Input Current	10A at 100 VAC/8.7 A at 200 VAC (lowline/highline)	
		Max Inrush Current	< 35 A at 132 VAC (cold start)	
		Holdup Time	20 ms from zero crossing at 120 VAC	
	<b>General Specifications</b>	Full Output Rating	To 104° F/40° C and 5,000 ft/1524 m	
			To 89.6° F/32° C and 10,000 ft/3,048 m (derate linearly)	
		Minimum Load	1 A on + 5 V output; 1 A on + 12 V output; 0.5 A on + 3.3 V output	
	<b>Ambient Temperature Range</b>	Operating	50° to 104° F/10° to 40° C	
		Storage	-40° to 149° F/-40° to 65° C	
	<b>Dielectric Voltage Withstand</b>	Input to Output	3,000 VAC/min	
		Input to Ground	1,500 VAC/min	
<b>Input Transient Susceptibility</b>	Common and Differential Mode (superimposed on AC line)	2,500 V, 1µs, damped sinusoid 600 V, 10 µs pulse		
	Differential Mode	20% step change in AC input voltage		
<b>System Power Module</b>	<b>Input Specifications</b>	DC Input	43 to 53 V DC	
		Max. Steady State Input Current	14 A	
		Rated Input Power	500 Watts at 43 V DC	
		Max Inrush Current	28 A	
		Max Inrush Current Duration	50 MS	
	<b>Output Specifications</b>	Regulation Limit for 3.3V channel	3.17 to 3.465 V	
		Regulation Limit for 5V channel	4.75 to 5.25 V	
		Regulation Limit for 12V channel	11.4 to 12.6 V	
		Max current for 3.3V channel	65 A	
		Max current for 5V channel	25 A	
	<b>Temperature Range</b>	Operating	32° to 140° F at full load at 200 LFM (Linear Feet per Minute). Temperature to be derated 1.8° F for every 1000 feet above sea level. (0° to 60° C at full load at 200 LFM. Temperature to be derated 1° C for every 304.8 meters above sea level.)	
			Non-Operating	
			-40° to 158° F with a maximum rate of change of 68° F/hour (-40° to 70° C with a maximum rate of change of 20° C/hour)	

# QuickSpecs

Compaq ProLiant DL590/64

## Technical Specifications

LS-120 Drive	<b>Dimensions</b>	(HxWxD, maximum)	0.5 x 5.22 x 5.45 in/1.27 x 13.25 x 138 cm
		Weight	0.61 lb/0.276 kg
	<b>Maximum Transfer Rate</b>	From Disk	896 KB/s
		Sustained	375 to 900 KB/s
	<b>120 MB Physical Format</b>	Number of Heads	2
		Bytes per Sector	512
		Sectors per Track	51-92
		Zones/Side	55
		Data Tracks per Side	1736
		Servo Tracks	900
		Sector Interleave	1:1
	<b>Access Times</b> (including setting)	Track-to-track	20 ms (typical)
		Average	70 ms (typical)
		Latency Average	41.67 ms
<b>Operating Conditions</b>	Temperature	41° to 131° F/5° to 50° C	
	Humidity	10% to 80% RH	
<b>Operating System Support</b>	Windows 98/98SE, Windows 2000, Windows Millennium, Windows NT 4.0		
Video Controller	<b>Controller Chip</b>	ATI RAGE XL	
	<b>Video DRAM</b>	8 MB Video SDRAM	
	<b>Data Transfer Method</b>	32-bit PCI	
	<b>Support Resolution</b>	Supported Color Depths:	
		640 x 480	16.7M, 64K, 256, 16
		800 x 600	16.7M, 64K, 256, 16
		1024 x 768	16.7M, 64K, 256, 16
		1152 x 864	16.7M, 64K, 256, 16
		1280 x 1024	16.7M, 64K, 256, 16
	1600 x 1200	64K, 256, 16	
<b>Connector</b>	VGA		
Hot Plug Wide Ultra3 SCSI Hard Drives	72.8 GB10K	<b>Capacity</b>	72837.2 MB
		232432-B22	<b>Height</b>
		<b>Width</b>	4 in/101.6 mm
		<b>Interface</b>	Wide Ultra3 SCSI
		<b>Transfer Rate Synchronous (Maximum)</b>	160 MB/s
	<b>Seek Time</b> (typical reads, including settling)	Single Track	0.3 ms
		Average	4.5 ms
		Full-Stroke	11 ms
		Rotational Speed	10,000 rpm
	<b>Physical Configuration</b>	Bytes/Sector	512
		Logical Blocks	142,264,000
<b>Operating Temperature</b>	41° to 131° F/5° to 55° C		

# QuickSpecs

Compaq ProLiant DL590/64

## Technical Specifications

Hot Plug Wide Ultra3 SCSI Hard Drives <i>(continued)</i>	36.4 GB 10K 176496-B22	<b>Capacity</b>	36419.2 MB		
		<b>Height</b>	1 in/25.4 mm		
		<b>Width</b>	4 in/101.6 mm		
		<b>Interface</b>	Wide Ultra3 SCSI		
		<b>Transfer Rate Synchronous (Maximum)</b>	160 MB/s		
		<b>Seek Time</b> (typical reads, including settling)	Single Track	0.7 ms	
			Average	5.4 ms	
			Full-Stroke	11 ms	
			<b>Rotational Speed</b>	10,000 rpm	
		<b>Physical Configuration</b>	Logical Blocks	71,132,000	
<b>Operating Temperature</b>	50° to 95° F/10° to 35° C				
18.2 GB 10K 142673-B22	36.4 GB 10K 142673-B22	<b>Capacity</b>	18209.3 MB		
		<b>Height</b>	1 in/25.4 mm		
		<b>Width</b>	4 in/101.6 mm		
		<b>Interface</b>	Wide Ultra3 SCSI		
		<b>Transfer Rate Synchronous (Maximum)</b>	160 MB/s		
		<b>Seek Time</b> (typical reads, including settling)	Single Track	0.7 ms	
			Average	5.4 ms	
			Full-Stroke	11 ms	
			<b>Rotational Speed</b>	10,000 rpm	
		<b>Physical Configuration</b>	Logical Blocks	35,566,080	
<b>Operating Temperature</b>	50° to 95° F/10° to 35° C				
36.4 GB 15K 232916-B22	36.4 GB 15K 232916-B22	<b>Capacity</b>	36419.2 MB		
		<b>Height</b>	1 in/25.4 mm		
		<b>Width</b>	4.0 in/101.6 mm		
		<b>Interface</b>	Wide Ultra3 SCSI		
		<b>Transfer Rate Synchronous (Maximum)</b>	160 MB/s		
		<b>Seek Time</b> (typical reads, including settling)	Single Track	0.4 ms	
			Average	3.8 ms	
			Full-Stroke	8 ms	
			<b>Rotational Speed</b>	15,000 rpm	
		<b>Physical Configuration</b>	Bytes/Sector	512	
Logical Blocks	71,132,000				
<b>Operating Temperature</b>	50° to 95° F/10° to 35° C				
18.2 GB 15K 188122-B22	18.2 GB 15K 188122-B22	<b>Capacity</b>	18209.3 MB		
		<b>Height</b>	1 in/25.4 mm		
		<b>Width</b>	4 in/101.6 mm		
		<b>Interface</b>	Wide Ultra3 SCSI		
		<b>Transfer Rate Synchronous (Maximum)</b>	160 MB/s		
		<b>Seek Time</b> (typical reads, including settling)	Single Track	0.4 ms	
			Average	3.8 ms	
			Full-Stroke	8 ms	
			<b>Rotational Speed</b>	15,000 rpm	
		<b>Physical Configuration</b>	Logical Blocks	35,565,080	
<b>Operating Temperature</b>	50° to 95° F/10° to 35° C				



# QuickSpecs

Compaq ProLiant DL590/64

## Technical Specifications

<b>24X Max IDE CD-ROM Drive (Slim Line)</b>	<b>Disk</b>	<b>Applicable Disk</b>	CD-DA, CD-ROM (Mode 1 and 2) CD-XA, CD-I (Mode 2, Form 1 and 2) CD-I Ready, CD Extra, Video CD, CD-Bridge Photo CD (Single and Multi-session) CD-WO	
		<b>Capacity</b>	550 MB (Mode 1, 12 cm) 640 MB (Mode 2, 12 cm)	
		<b>Diameter</b>	4.7 x 3.15 in/12 x 8 cm	
		<b>Rotational Speed</b>	4200 rpm maximum	
		<b>Center Hole</b>	0.6 in/15 mm diameter	
		<b>Thickness</b>	1.2 mm	
		<b>Track Pitch</b>	1.6 µm	
		<b>Block Size</b>	Mode 0	2,368, 2,352 bytes
			Mode 1	2,352, 2,340, 2,336, 2,048 bytes
			Mode 2	2,352, 2,340, 2,336, 2,048 bytes
		<b>Interface</b>	IDE (ATAPI)	
		<b>Access Times (typical)</b>	Random	< 140 ms
			Full-Stroke	< 300 ms
		<b>Data Transfer Rate</b>	Sustained	150 KB/s (sustained 1X)
			Burst	2100 to 4800 KB/s
<b>Cache Buffer</b>	128 KB			
<b>Start-up Time (typical)</b>	< 10 seconds			
<b>Stop Time</b>	< 5 seconds			
<b>Operating Conditions</b>	Temperature	41° to 120°F/5° to 55°C		
	Humidity	10% to 80%		
<b>Dimensions</b>	(HxWxD, maximum)	12.7 x 131 x 130 mm		
	Weight	< 0.75 lb/< 340 g		

## Technical Specifications

Smart Array 5300 Controller	Data Compatible with all Smart Array Controllers	Yes
	Instant Upgrades to other Smart Array Controllers	Yes
	Consistent Software Manageability Tools	Yes
	PCI Bus	64-bit, 66 MHz
	PCI Peak Data Transfer Rate	533 MB/s
	SCSI Protocols Supported	Ultra3, Ultra2, Wide-Ultra
	SCSI Peak Data Transfer Rate	640 MB/s total, 160 MB/s per channel
	Channels	2, 4
	SCSI Ports (external/internal)	2 channel model: 2/2
		4 channel model: 4/2
	Drives Supported (maximum)	56
	Note: Drives Supported (maximum) is based on use of <i>StorageWorks</i> Enclosure 4200 family (14 hard disk drive enclosure).	
	Cache	256, 128, 64 or 32 MB battery backed read-write
	RAID Support	0, 1, 1+0, 5, Advanced Data Guarding
	Note: For customers who have purchased the SA-5304/128 a quick firmware upgrade to enable the technology is available from <a href="http://www.compaq.com/smartarray">http://www.compaq.com/smartarray</a> .	
	Note: RAID Support: Advanced Data Guarding (RAID ADG) is available with 128-MB versions of the SA-5300 only.	
	Logical Drives (maximum)	32
	Online Configuration	Yes
	Online Capacity Expansion	Yes
	Logical Drive Capacity Extension	Yes
Online Stripe Size Migration	Yes	
Online RAID Level Migration	Yes	
Online Spare Support	Yes	
Automatic Data Recovery	Yes	
Drive Roaming	Yes	
Redundant Controllers	No	

## Technical Specifications

Smart Array 532 Controller	Data Compatible with all Smart Array Controllers	Yes		
	Instant Upgrades to other Smart Array Controllers	Yes		
	Consistent Software Manageability Tools	Yes		
	PCI Bus	64-bit, 66 MHz		
	PCI Peak Data Transfer Rate	533 MB/s		
	SCSI Protocols Supported	Ultra3, Ultra2		
	SCSI Peak Data Transfer Rate	160 MB/s		
	Channels	2		
	SCSI Ports (external/internal)	1/1		
	Drives Supported (maximum)	14		
	Note: Drives Supported (maximum) is based on use of <i>StorageWorks</i> Enclosure 4300 family (14 hard disk drive enclosure).			
	Cache	32-MB cache engine		
	RAID Support	0, 1, 1+0, 5		
	Logical Drives (maximum)	32		
	Online Configuration	Yes		
	Online Capacity Expansion	Yes		
	Logical Drive Capacity Extension	Yes		
	Online Stripe Size Migration	Yes		
	Online RAID Level Migration	Yes		
	Online Spare Support	Yes		
	Automatic Data Recovery	Yes		
Drive Roaming	Yes			
Redundant Controllers	No			
NC3134 Fast Ethernet NIC 64 PCI Dual Port 10/100	Network Interface	10Base-T/100Base-TX		
	Compatibility	IEEE 802.3/802.3u compliant		
	Data Transfer Method	64-bit/66MHz bus-master PCI, compatible with 64/33, 32/66, and 32/33		
	Network Transfer Rate	10Base-T (Half-Duplex), 10Base-2	10 Mb/s	
		10Base-T (Full-Duplex)	20 Mb/s	
		100Base-TX (Half-Duplex)	100 Mb/s	
		100Base-TX (Full-Duplex)	200 Mb/s	
		Connector	Dual RJ-45	
	I/O Address and Interrupt	Automatic Configuration		
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP (2 or 4 pair); up to 328 feet (100 meters)	
		100Base-TX	Category 5 UTP (2 pair); up to 328 feet (100 meters)	
OS Driver Support	Microsoft Windows Advanced Server Limited Edition, Linux 64-bit (Red Hat 7.1, SuSE 7.2)			

# QuickSpecs

Compaq ProLiant DL590/64

## Technical Specifications

<b>64-bit/66-MHz Single Channel Wide Ultra3 SCSI Adapter</b>	<b>Drives Supported</b>	Up to 14 SCSI devices
	<b>Storage Capacity</b>	254.8 GB
	<b>Data Transfer Method</b>	64-bit/66-MHz PCI bus-master
	<b>Maximum SCSI Channel Transfer Rate</b>	160 MB/s per channel
	<b>Maximum Transfer Rate per PCI Bus (peak)</b>	532 MB/s per channel
	<b>SCSI Protocols</b>	Wide Ultra3 SCSI Wide Ultra2 SCSI Wide-Ultra SCSI-3 Fast-Wide SCSI-2 Fast SCSI-2
	<b>Electrical Protocol</b>	Low Voltage Differential (LVD)
	<b>SCSI Termination</b>	Active Termination
	<b>External SCSI Connectors</b>	One 68-Pin Wide Ultra SCSI-3 connector
	<b>Internal SCSI Connectors</b>	Two 68-Pin Wide Ultra SCSI-3 connectors (one LVD and one SE) One 50-Pin Narrow Ultra connector

<b>64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter</b>	<b>Drives Supported</b>	Up to 28 SCSI devices (14 per channel)
	<b>Storage Capacity</b>	1.019 TB
	<b>Data Transfer Method</b>	64-bit/66-MHz PCI bus-master
	<b>Maximum SCSI Channel Transfer Rate</b>	160 MB/s per channel
	<b>Maximum Transfer Rate per PCI Bus (peak)</b>	532 MB/s per channel
	<b>SCSI Protocols</b>	Wide Ultra3 SCSI Wide Ultra2 SCSI Wide-Ultra SCSI-3 Fast SCSI-2
	<b>Electrical Protocol</b>	Low Voltage Differential (LVD)
	<b>SCSI Termination</b>	Active Termination
	<b>External SCSI Connectors</b>	Two 68-pin VHDCI connectors
	<b>Internal SCSI Connectors</b>	Two 68-Pin Wide Ultra SCSI-3 connectors One 50-Pin Narrow Ultra connector

<b>Compaq Rack 10842</b> (42U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	78.7 in/199.9 cm	85in/215.9 cm	
	Depth	39.691 in/100.82 cm	48 in/121.92 cm	Graphite Metallic – doors
	Width	31.5 in/ 80.01cm	43.5 in/110.49 cm	Carbon – frame
	Weight	295 lb/133.8 kg	335lb/151.95 kg	

<b>Compaq Rack 10647</b> (47U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	89.96 in/228.5 cm	95.47 in/242.49 cm	
	Depth	39.691 in/100.82 cm	48 in/121.92 cm	Graphite Metallic – doors
	Width	24 in/60.96 cm	32 in/81.28 cm	Carbon – frame
	Weight	245 lb/111 kg	284 lb/129 kg	

<b>Compaq Rack 10642</b> (42U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	78.7 in/199.90 cm	86.22 in/219 cm	
	Depth	39.691 in/100.82 cm	48 in/121.92 cm	Graphite Metallic – doors
	Width	24 in/60.96 cm	32 in/81.28 cm	Carbon – frame
	Weight	253 lb/114.84 kg	325 lb/147.52 kg	

# QuickSpecs

Compaq ProLiant DL590/64

## Technical Specifications

<b>Compaq Rack 10636</b> (36U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	68.6 in/174.24 cm	75.25 in/191.14 cm	
	Depth	39.691 in/100.82 cm	48 in/121.92 cm	Graphite Metallic – doors
	Width	24 in/60.96 cm	32 in/81.28 cm	Carbon – frame
	Weight	220 lb/100 kg	272 lb/123 kg	
<b>Compaq Rack 10622</b> (22U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	43 in/109.22 cm	52.25 in/132.72 cm	
	Depth	39.691 in/100.82 cm	48 in/121.92 cm	Graphite Metallic – doors
	Width	24 in/60.96 cm	32 in/81.28 cm	Carbon – frame
	Weight	176 lb/79.89 kg	225 lb/102.13 kg	
<b>Compaq Rack 9842</b> (42U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	78.7 in/199.9 cm	86.22 in/219 cm	
	Depth	35.8 in/90.932 cm	48 in/121.92 cm	Opal
	Width	31.5 in/80.01 cm	38.8 in/98.55 cm	
	Weight	374 lb/170 kg	440 lb/200 kg	
<b>Compaq Rack 9142</b> (42U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	78.7 in/199.9 cm	83.38 in/211.79 cm	
	Depth	35.8 in/90.932 cm	48 in/121.92 cm	Opal
	Width	23.7 in/60.2 cm	32 in/81.28 cm	
	Weight	253 lb/114.84 kg	325 lb/147.52 kg	
<b>Compaq Rack 9136</b> (36U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	68.6 in/174.24 cm	75.25 in/191.14 cm	
	Depth	35.8 in/90.932 cm	48 in/121.92 cm	Opal
	Width	23.7 in/60.2 cm	32 in/81.28 cm	
	Weight	165 lb/75 kg	234 lb/106 kg	
<b>Compaq Rack 9122</b> (22U)(optional)	<b>Dimensions</b>	<b>Total Cabinet</b>	<b>Shipping</b>	<b>Color</b>
	Height	43 in/109.22 cm	52.25 in/132.72 cm	
	Depth	35.8 in/90.932 cm	48 in/121.92 cm	Opal
	Width	24 in/60.96 cm	32 in/81.28 cm	
	Weight	176 lb/79.89 kg	225 lb/102.13 kg	

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