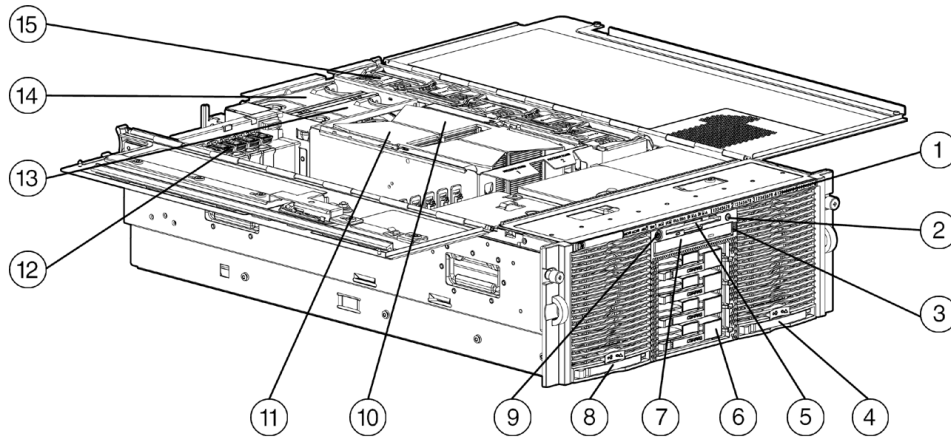


## Overview



- |   |  |
|---|--|
| 1. LED Diagnostic Display (system health and DIMM status)     | 8. Redundant Hot Plug Power Supply #1            |
| 2. Unit ID (UID) LED Switch (front and rear)                  | 9. System Power LED Switch                       |
| 3. Universal Media Bay Ejector Button                         | 10. Processor Board #2                           |
| 4. Redundant Hot Plug Power Supply #2                         | 11. Processor Board #1                           |
| 5. 1.44MB Floppy Drive  | 12. Six 100MHz/64-bit PCI-X slots                |
| 6. Ultra3 Hard Disk Drive Bays (up to four)                   | 13. Redundant Hot Plug Fan #2                    |
| 7. CD/DVD-ROM Drive in Universal Media Bay<br>(hot pluggable) | 14. Redundant Hot Plug Fan #1                    |
|   | 15. Hot Plug RAID Memory Cartridges (five total) |

## What's New

- Intel® Xeon Processor MP 2.8 GHz/2MB, 2.5GHz/1MB or 2.0GHz/1MB Processors (eight processor capability)

## At a Glance

- Uncompromising 8-way performance and availability in an ultra dense, 4U form factor
- Intel Xeon Processor MP 2.8 GHz/2MB, 2.5GHz/1MB, or 2.0GHz/1MB Processors (eight processor capability)
- HP developed F8 chipset
- 133 MHz SDRAM Memory, expandable to 64 GB addressable memory
- HP Hot Plug RAID Memory Technology
  - Hot Add, Hot Replace, and Hot Upgrade
  - Uses industry standard ECC-protected memory
- Six 64 bit/100MHz PCI-X slots, all hot pluggable
- Integrated Lights-Out Standard Management (iLO) on system board
- Two NC7781 PCI-X Gigabit NICs (embedded)
- Integrated Smart Array 5i Controller (Ultra3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
- Internal Hot Plug Drive Storage of 584.2 GB (4 x 1" 146.8-GB Ultra320 hard drives running Wide Ultra3)
- Tool less and modular chassis for enhanced serviceability
- Innovative diagnostic lighting for rapid response to service events
- Unit ID (UID) lighting, front and rear
- Front bezel system health/RAID memory LEDs
- Two 1100W/800W hot plug redundant power supplies standard
- Two hot plug redundant system fans standard
- Rapid deployment racking solution (rack rails and cable management)

### Standard Features

<b>Processor</b> <i>One of the following depending on Model:</i>	(4) Intel Xeon Processors MP 2.8 GHz/2MB (4) Intel Xeon Processors MP 2.5 GHz/1MB (4) Intel Xeon Processors MP 2.0 GHz/1MB (4) Intel Xeon Processors MP 2.0 GHz/2MB (4) Intel Xeon Processors MP 1.5 GHz/1MB	
<b>Cache Memory</b> <i>One of the following depending on Model:</i>	2-MB Integrated Level 3 cache (per processor) <b>(NOTE: Available with 2.0 GHz or 2.8GHz models.)</b> 1-MB Integrated Level 3 cache (per processor) <b>(NOTE: Available with 1.5 GHz, 2.5GHz or 2.0 GHz models.)</b>	
<b>Upgradability</b>	Upgradeable to eight processors	
<b>Chipset</b>	HP developed F8 chipset	
<b>Memory</b> <i>One of the following depending on Model:</i>	Standard	4096 MB addressable protected 133MHz ECC SDRAM DIMMs (5120 MB total) <b>NOTE: Available with 2.8 GHz, 2.5 GHz or 2.0 GHz models</b>
	Maximum	64 GB addressable (80 GB total)
	Standard	2048MB addressable protected 133MHz ECC SDRAM DIMMs (2560 MB total) <b>NOTE: Available with 2.0 GHz or 1.5 GHz models</b>
	Maximum	64 GB addressable (80 GB total)
	<b>NOTE: All models come standard with all five memory cartridges populated and Hot Plug RAID Memory enabled.</b> <b>NOTE: In standard Hot Plug RAID Memory mode, addressable memory refers to the portion of memory that is addressable by the OS. Total memory consists of addressable memory plus the redundant memory (stored in the dedicated parity memory cartridge.)</b>	
<b>Network Controller</b>	Two NC7781 PCI-X Gigabit NICs (embedded)	
<b>Expansion Slots</b>	I/O (6 Total – 64-bit PCI-X, all Hot Pluggable) PCI-X 100-MHz (Hot Plug)      6	PCI Voltage 3.3 Volt (keyed for 3.3 Volt or universal PCI-X/PCI cards)
	<b>NOTE: For more information regarding PCI-X, please see the following URL:</b> <a href="http://h18000.www1.hp.com/products/servers/technology/pci-x-enablement.html">http://h18000.www1.hp.com/products/servers/technology/pci-x-enablement.html</a>	
<b>Storage Controllers</b>	Smart Array 5i Controller (integrated on system board), one internal channel, Ultra3 (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives) Optional support for Ultra3 or Ultra 320 storage controllers in an I/O slot to internal drives via array bypass cable	
<b>Storage</b>	Diskette Drives CD/DVD-ROM (in the Universal Media Bay) Hard Drives Maximum Internal Storage	1.44 MB Floppy Drive Slimline CD-RW/DVD-ROM 24X Combo Drive Option Kit None 587.2 GB (4 x 146.8 GB Ultra320 1" Drives) (internal hot plug cage only)

### Standard Features

<b>Interfaces</b>	Serial	1
	Pointing Device (Mouse)	1
	Graphics	1
	Hot Plug Keyboard	1
	USB (rear only)	1
	iLO remote management port	1
	Network RJ-45	2

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**Graphics** Integrated ATI RAGE XL Video Controller with 8-MB SDRAM Video Memory

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**Form Factor** 4U (7") Rack Form Factor; Ships with sliding rack rails and cable management system; Standard 19" rack-mountable

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### Standard Features

<b>ProLiant Essentials Foundation Pack Software</b>	Insight Manager 7 and HP Systems Insight Manger	Insight Manager 7 and HP's new HP Systems Insight Manager help maximize system uptime and performance and reduce system maintenance costs by providing proactive notification of problems before those problems result in unplanned downtime or reduced productivity. Insight Manager 7 and HP Systems Insight Manager are both easy to set up work with the Insight Management Agents, integrated Light-Out and Remote Insight Light-Out Edition, and Version Control Agents to deliver robust fault, configuration, and asset management as well as remote administration. With HP Systems Insight Manager customers will also be able to take advantage of role-based security; the ability to manage ProLiant, Integrity, and HP9000 systems; and plug-ins for storage, client, printer, and power management as well as server rapid deployment, performance management, and workload management. For more details on HP Systems Insight Manager visit <a href="http://www.hp.com/go/hpsim">http://www.hp.com/go/hpsim</a>
	SmartStart	SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at <a href="http://www.hp.com/servers/smartstart">http://www.hp.com/servers/smartstart</a> . SmartStart version supported (minimum): SmartStart 5.00.
	Management Agents	The Management Agents form the foundation for HP's Intelligent Manageability strategy. They provide direct, browser-based access to in-depth instrumentation built into HP servers, workstations, desktops, and portables, and send alerts to Insight Manager 7 and other enterprise management applications in case of subsystem or environmental failures. For additional information about the Management Agents and other management products from HP, please visit the management Web site at <a href="http://www.hp.com/servers/manage">http://www.hp.com/servers/manage</a> .
	ActiveUpdate	Active Update is a web-based application that keeps IT managers directly connected to HP for proactive notification and delivery of the latest software updates.
	ROMPaq, support software, and configuration utilities	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options.
	Survey Utility and diagnostics utilities	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips.
	Optional ProLiant Essentials Value Packs	<p>Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs:</p> <ul style="list-style-type: none"> <li>● Rapid Deployment Pack – an automated solution for multi-server deployment and provisioning, enabling companies to quickly and easily adapt to changing business demands.</li> <li>● Workload Management Pack – provides easier management of complex environments, improving overall server utilization and enabling Windows® 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.</li> <li>● Performance Management Pack – a performance management solution that identifies and explains hardware performance bottlenecks on ProLiant servers and attached options enabling users to better utilize their valuable resources.</li> </ul>

**NOTE:** Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to <http://www.hp.com/servers/proliantessentials> or the various ProLiant Essentials Value Pack product QuickSpecs for more information.

**NOTE:** For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessentials>

### Industry Standard Compliance

ACPI 1.0b Compliant  
 PCI-X and PCI 2.2 Compliant  
 PAE Support  
 PXE Support  
 Microsoft® Logo certifications

### Standard Features

#### Intelligent Manageability

Integrated Lights-Out (iLO) Standard Management

- Virtual Text Remote Console
- Virtual Power Button Control
- Dedicated LAN Connectivity
- Automatic IP Configuration via DHCP/DNS/WINS
- Industry Standard 128-bit Secure Sockets Layer (SSL) Security
- IML and iLO Event Logging
- Support for 12 user accounts with customizable access privilege

Integrated Lights-Out (iLO) Advanced Pack (supports Advanced features such as Graphical Remote Console and Virtual Floppy - available as a separate option)

Insight Manager 7

HP Systems Insight Manager

Remote Insight Lights-Out Edition II (optional)

ROM-Based Setup Utility (RBSU)

Integrated Management Log (IML)

Server Health logging

Automatic Server Recovery-2 (ASR-2)

System Interconnect Status Indicators

Remote-Flash Redundant ROM

Hot Spare Boot (**NOTE: Upon the event of a failed processor or VRM in a multi-processing environment, the system will automatically reboot and use the remaining good processor(s).**)

Power Down Utility

Pre-Failure Warranty (covers processors, as well as hard drives and memory)

Dynamic sector repairing and drive parameter tracking (with Smart Array controllers)

#### Availability

Hot Plug RAID Memory - delivering unsurpassed memory protection and server availability:

- Uses industry standard ECC SDRAM DIMMs
- Fully redundant architecture, with no more performance overhead than is currently experienced with ECC protection.
- Same level of redundancy as achieved with memory mirroring, at only 25% of the additional memory expense when compared to mirroring.
- Customer can choose to run in non-RAID memory mode by populating only the first 4 memory cartridges.
- **Hot Add**
- Add a new bank of DIMMs while the server is running
- OS/Application enabled
- **Hot Upgrade**
- Upgrade from a lower capacity DIMM to a higher capacity DIMM while the server is running
- OS/Application enabled
- **Hot Replace**
- Replace a failed DIMM while the server is running
- OS/Application transparent

Six 64bit/100MHz PCI-X Hot Plug slots with push button functionality

Dual Redundant Hot Plug Fans

Smart Array 53XX Controller (optional)

Dynamic sector repairing and drive parameter tracking (with Smart Array controllers)

Fault Tolerant Processor Power Modules

Redundant/adaptive load balancing NIC Support

Dual Redundant Hot Plug Power Supplies

### Standard Features

#### Serviceability

- Innovative Diagnostic Lighting throughout server
  - LED display on front bezel indicates system health and DIMM status
  - LED display on memory cartridges indicates cartridge power and attention status
- Tool-less, virtually cable-less interior design
- Tool-less access to interior of server
- Hot pluggable universal media bay (CD/DVD-ROM drive ships standard) ejects without the use of tools
- Front access power supplies
- PCI Card Guides locks full length PCI cards in place during transit
- SCSI Drive Cage connects directly to system board – no cables.
- Modular mechanical design allows tool-less access to major subsystems for easy upgrades and servicing
  - Host Module: Processor, Memory, and I/O Subsystems
  - Power and Media Module: SCSI Backplane, Power Supplies, Universal Media Bay
- Quick Deploy Racking System
- Tool-less design "snap in" rails

#### Security

Power-on password  
Diskette drive control  
Diskette boot control  
Network server mode  
Security provision  
Parallel and serial interface control  
Administrator's password  
Disk configuration lock  
Hot plug access security

#### Server Power Cords

Two IEC to IEC Highline power cords (PDU adapters) ship standard

#### Power Supply

Two Redundant Hot Plug 1100/800-Watt power supplies per system. Power supplies are load sharing and provide 1100 Watts of Redundant power for 220-volt input or 800 Watts of power for 115-volt input.  
**NOTE:** To ensure redundancy of server power, HP requires that 200-240 VAC power be used for all deployments. This will ensure that both power supplies can support up to their maximum configurations, and remain in a redundant power supply state.  
**NOTE:** Due to the increased power consumption of the new Intel Xeon MP processors, power redundancy may not be supported on all server configurations when using 115-120 VAC power. Please refer to the Power Supply Calculator <http://activeanswers.compaq.com/> to determine if your configuration is redundant.  
**NOTE:** A maximum of two power supplies are supported (shipped standard with each server).

#### System Fans

Two Hot-Plug redundant fans ship standard. Two maximum supported.

#### Required Cabling

For required cabling information, refer to the HP Web site at:  
<http://h18004.www1.hp.com/products/servers/proliantdl740/index.html>.

#### OS Support

Microsoft Windows 2000  
Microsoft Windows 2000 Advanced Server  
Microsoft Windows Server 2003 (Standard and Enterprise)  
LINUX (Red Hat, SuSE)  
**NOTE:** For a more complete and up-to-date listing of supported OS's and versions, please visit our OS Support Matrix at: <ftp://ftp.compaq.com/pub/products/servers/os-support-matrix-310.pdf>.  
**NOTE:** For an up-to-date listing of the latest drivers available for the HP ProLiant DL740, please see: <http://h18023.www1.hp.com/support/files/server/us/index.html>.  
**NOTE:** For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at <http://h18000.www1.hp.com/products/servers/linux/hpLinuxcert.html>.

### Standard Features

#### Rack Airflow Requirements

- Rack 10000 series Cabinets  
The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors..

**CAUTION:** If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).

**CAUTION:** 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.

**NOTE:** 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:

<http://www5.compaq.com/products/servers/ProLiantdl740/index.html>.

**NOTE:** Allow a minimum of 48 inches (121.92 cm) clearance beyond the front of your rack to permit server installation and removal. This applies to both individual rack installations as well as when aligning rack rows so that the front doors are facing each other.

#### HP Factory Express Capabilities

HP Factory Express gives you the flexibility to choose from a full menu of factory capabilities all in one manufacturing facility, in one process, with one touch giving you full control and access to HP's World class manufacturing facility anytime. This approach provides you the speed to deploy your IT needs, with total quality assurance, reliability, and predictability to lower your total cost of ownership by letting HP install, rack, and customize your software and hardware options for you.

#### Service and Support

HP 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 and lifetime toll-free 7 x 24 hardware technical phone support. In addition, available service offerings include:

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

A full range of HP Care Pack 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, visit <http://www.hp.com/services/carepack>.

Please see the following URL regarding Warranty Information For Your HP Products:  
<http://h18004.www1.hp.com/products/servers/platforms/warranty/index.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 Customer Support Center at 1-800-345-1518 for details.

### Models

<b>DL740R01 X2.8-2MB, 4096MB (4P) 330531-B21</b>	<b>Processor(s)</b>	(4) Intel Xeon Processors MP at 2.8 GHz standard (up to 8 supported)
	<b>Cache Memory</b>	2-MB Integrated Level 3 cache (per processor)
	<b>Memory</b>	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	<b>Network Controller</b>	Two NC7781 PCI-X Gigabit NICs (embedded)
	<b>Storage Controller</b>	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	<b>Hard Drives</b>	None
	<b>Internal Storage</b>	587.2 GB maximum (with optional hard drives)
	<b>Cache Accelerator</b>	2-MB Cache coherency accelerator embedded on host board
	<b>Optical Drive</b>	Slimline DVD-ROM Drive (8X/24X)
	<b>I/O Slots</b>	PCI-X
	<b>Form Factor</b>	4U Rack Form Factor

<b>DL740R01 X2.5-1MB, 4096MB (4P) 330975-B21</b>	<b>Processor(s)</b>	(4) Intel Xeon Processors MP at 2.5 GHz standard (up to 8 supported)
	<b>Cache Memory</b>	1-MB Integrated Level 3 cache (per processor)
	<b>Memory</b>	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	<b>Network Controller</b>	Two NC7781 PCI-X Gigabit NICs (embedded)
	<b>Storage Controller</b>	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	<b>Hard Drives</b>	None
	<b>Internal Storage</b>	587.2 GB maximum (with optional hard drives)
	<b>Cache Accelerator</b>	2-MB Cache coherency accelerator embedded on host board
	<b>Optical Drive</b>	Slimline DVD-ROM Drive (8X/24X)
	<b>I/O Slots</b>	PCI-X
	<b>Form Factor</b>	4U Rack Form Factor

<b>DL740R01 X2.0-1MB, 2048MB (4P) 330501-B21</b>	<b>Processor(s)</b>	(4) Intel Xeon Processors MP at 2.0 GHz standard (up to 8 supported)
	<b>Cache Memory</b>	1-MB Integrated Level 3 cache (per processor)
	<b>Memory</b>	2048 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	<b>Network Controller</b>	Two NC7781 PCI-X Gigabit NICs (embedded)
	<b>Storage Controller</b>	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	<b>Hard Drives</b>	None
	<b>Internal Storage</b>	587.2 GB maximum (with optional hard drives)
	<b>Cache Accelerator</b>	2-MB Cache coherency accelerator embedded on host board
	<b>Optical Drive</b>	Slimline DVD-ROM Drive (8X/24X)
	<b>I/O Slots</b>	PCI-X
	<b>Form Factor</b>	4U Rack Form Factor

### Models

**DL740R01 X2.0-2MB,  
4096MB (4P)**  
221276-B21

<b>Processor(s)</b>	(4) Intel Xeon Processors MP at 2.0 GHz standard (up to 8 supported)
<b>Cache Memory</b>	2-MB Integrated Level 3 cache (per processor)
<b>Memory</b>	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
<b>Network Controller</b>	Two NC7781 PCI-X Gigabit NICs (embedded)
<b>Storage Controller</b>	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
<b>Hard Drives</b>	None
<b>Internal Storage</b>	587.2 GB maximum (with optional hard drives)
<b>Cache Accelerator</b>	2-MB Cache coherency accelerator embedded on host board
<b>Optical Drive</b>	Slimline DVD-ROM Drive (8X/24X)
<b>I/O Slots</b>	PCI-X
<b>Form Factor</b>	4U Rack Form Factor

**DL740R01 X1.5-1MB,  
2048MB (4P)**  
221275-B21

<b>Processor(s)</b>	(4) Intel Xeon Processors MP at 1.5 GHz standard (up to 8 supported)
<b>Cache Memory</b>	1-MB Integrated Level 3 cache (per processor)
<b>Memory</b>	2048 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (2560 MB total)
<b>Network Controller</b>	Two NC7781 PCI-X Gigabit NICs (embedded)
<b>Storage Controller</b>	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
<b>Hard Drives</b>	None
<b>Internal Storage</b>	587.2 GB maximum (with optional hard drives)
<b>Cache Accelerator</b>	2-MB Cache coherency accelerator embedded on host board
<b>Optical Drive</b>	Slimline DVD-ROM Drive (8X/24X)
<b>I/O Slots</b>	PCI-X
<b>Form Factor</b>	4U Rack Form Factor

### Options

<b>ProLiant DL740 Unique Options</b>	Low Line (115V) Cable Kit, C-13 to 5-15P	317424-001
	DL740 Folding Metal Cable Management Arm	321716-B21
<p><b>*NOTE:</b> The Low Line Cable Kit consists of a single, 9 foot, IEC C-13 to 5-15P, 10 Amp cord. HP highly recommends running your DL740 at high line (220V) voltage to ensure power redundancy for all of your robust, business-critical configurations. Because of the increasing power requirements of the memory and microprocessor subsystems, the DL740 does not support power redundancy for all configurations when running at low line voltage. Please refer to the Power Supply Calculator <a href="http://activeanswers.compaq.com/">http://activeanswers.compaq.com/</a> to determine if your low line configuration is redundant.</p>		
<b>ProLiant Essentials Value Pack Software</b>	ProLiant Essentials Performance Management Pack Single Server License	306696-B21
	ProLiant Essentials Workload Management Pack (Featuring Compaq Resource Partitioning Manager version 2.0)	303284-B21
	ProLiant Essentials Integrated Lights-Out Advanced Pack	263825-B21
<p><b>NOTE:</b> Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to <a href="http://www.hp.com/servers/proliantessentials">http://www.hp.com/servers/proliantessentials</a> or the various ProLiant Essentials Value Pack product QuickSpecs for more information.</p> <p><b>NOTE:</b> For more information regarding ProLiant Essentials Software, please see the following URL: <a href="http://www.hp.com/servers/proliantessentials">http://www.hp.com/servers/proliantessentials</a>.</p>		
<b>HP NetServer integration Services</b>	HP NetServer to ProLiant integration and assessment service	304164-002
	<p><b>NOTE:</b> HP identifies current levels of NetServer support, services, and management. This service helps maximize customer's ability to add ProLiant platforms into their current environment.</p> <p>HP TopTools to Insight Manager 7 installation and startup service</p>	304163-002
<p><b>NOTE:</b> Provides on-site review, installation and configuration services for Insight Manager 7. HP will also re-create, as closely as possible, the views and reports from the customer's current TopTools configuration. This service assures a smooth transition to the ProLiant Essentials software.</p>		
<b>Processor</b>	<p><b>NOTE:</b> Intel Xeon 2.8GHz/2MB, 2.0GHz/2MB, 2.5GHz/1MB, 2.0GHz/1MB, and 1.5 GHz/1MB processors cannot be mixed in the same server. They all have to be of the same speed and cache size.</p>	
	Intel Xeon MP 2.80GHz -2MB Processor Option Kit (4P)	334037-B21
	<p><b>NOTE:</b> This processor option kit (PN 334037-B21) supports the ProLiant DL740 and the ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.8GHz-2MB processors.</p>	
	Intel Xeon MP 2.5GHz -1MB Processor Option Kit (4P)	339072-B21
	<p><b>NOTE:</b> This processor option kit (PN 339072-B21) supports the ProLiant DL740 and the ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.5GHz-1MB processors.</p>	
	Intel Xeon MP 2.0GHz -1MB Processor Option Kit (4P)	334036-B21
	<p><b>NOTE:</b> This processor option kit (PN 334036-B21) supports the ProLiant DL740 and the ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.0GHz-1MB processors.</p>	
Intel Xeon MP 2.0GHz -2MB Processor Option Kit (4P)	287520-B21	
<p><b>NOTE:</b> This processor option kit (PN 287520-B21) supports the ProLiant DL740 and the ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.0GHz-2MB processors.</p>		
Intel Xeon MP 1.50 GHz-1MB Processor Option Kit (4P)	287519-B21	
<p><b>NOTE:</b> This processor option kit (PN 287519-B21) supports the ProLiant DL740 and the ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 1.5GHz-1MB processors.</p>		

### Options

<b>Memory</b> (SDRAM DIMMs)	2048MB 133MHz ECC SDRAM Memory Option Kit (1x2048MB)	317093-B21
	1024MB 133MHz ECC SDRAM Memory Option Kit (1x1024MB)	236854-B21
	512MB 133MHz ECC SDRAM Memory Option Kit (1x512MB)	236853-B21
	256MB 133MHz ECC SDRAM Memory Option Kit (1x256MB)	236852-B21

**NOTE:** Memory must be populated in banks of 10. (2 per memory cartridge x 5 cartridges) All DIMMs in a bank must be the same sku number.

### Hard Drives

#### **Ultra 320 SCSI – Universal Hot Plug**

36.4GB 10,000 rpm, U320 Universal Hard Drive, 1"	286713-B22
72.8GB 10,000 rpm, U320 Universal Hard Drive, 1"	286714-B22
146.8GB 10,000 rpm, U320 Universal Hard Drive, 1"	286716-B22
18.2GB 15,000 rpm, U320 Universal Hard Drive, 1"	286775-B22
36.4GB 15,000 rpm, U320 Universal Hard Drive, 1"	286776-B22
72.8GB 15,000 rpm, U320 Universal Hard Drive, 1"	286778-B22

**NOTE:** All U320 Universal Hard Drives are backward compatible to U2 or U3 speeds. U320 drives require an optional U320 Smart Array Controller or U320 SCSI HBA to support U320 transfer rates.

**NOTE:** Please see the Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:

U320 Hard Drive QS:

[http://h18000.www1.hp.com/products/quickspecs/11531\\_na/11531\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11531_na/11531_na.HTML)

### Options

<b>Storage Controllers</b>	Smart Array 532 Controller	225338-B21
	Smart Array 5302/128 Controller	283552-B21
	Smart Array 5304/256 Controller	283551-B21
	Smart Array 6402/128 Controller	273915-B21
	Smart Array 641 Controller	291966-B21
	Smart Array 642 Controller	291967-B21
	64MB BBWC Module for Smart Array 641/642 Controllers	291969-B21
	Ultra3 Channel Expansion Module for Smart Array 5300 Controller	153507-B21
	128-MB Cache Module for Smart Array 5302 Controller	153506-B21
	RAID ADG Upgrade for Smart Array 5302	288601-B21
	256-MB Battery-Backed Cache Module	254786-B21
	<b>NOTE:</b> This 256-MB Battery-Backed Cache Module supports the Smart Array 5300 series controllers, HP StorageWorks Modular Smart Array 1000 and the HP StorageWorks Modular Smart Array 500.	
	256MB DDR, Battery-Backed Cache Upgrade Kit for SA-6400	273913-B21
	<b>NOTE:</b> This 256-MB DDR, Battery-Backed Cache upgrade kit supports the Smart Array 6400 series controller only.	
	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter (The 64-bit/133-MHz Dual Channel Wide Ultra320 SCSI Adapter (268351-B21) will default to Wide Ultra2 when not used with the Wide Ultra3 hard drives.)	268351-B21
	Smart Array 6404/256 Controller	273914-B21
	Ultra320 Expansion Module for SA-6402	273911-B21
<b>NOTE:</b> Please see the following Controller or SCSI Adapter QuickSpecs for Technical Specifications such as PCI Bus, PCI Peak Data Transfer Rate, SCSI Protocols supported, SCSI Peak Data Transfer Rate, Channels, SCSI Ports, Drives supported, Cache, RAID support, and additional information: <a href="http://h18000.www1.hp.com/products/quickspecs/10851_na/10851_na.HTML">http://h18000.www1.hp.com/products/quickspecs/10851_na/10851_na.HTML</a> (Smart Array 532) <a href="http://h18000.www1.hp.com/products/quickspecs/10640_na/10640_na.HTML">http://h18000.www1.hp.com/products/quickspecs/10640_na/10640_na.HTML</a> (Smart Array 5300 Series) <a href="http://h18000.www1.hp.com/products/quickspecs/11328_na/11328_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11328_na/11328_na.HTML</a> (Smart Array 5312) <a href="http://h18000.www1.hp.com/products/quickspecs/1187_na/11587_na.HTML">http://h18000.www1.hp.com/products/quickspecs/1187_na/11587_na.HTML</a> (Smart Array 6402)) <a href="http://h18000.www1.hp.com/products/quickspecs/11563_na/11563_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11563_na/11563_na.HTML</a> (Smart Array 641) <a href="http://h18000.www1.hp.com/products/quickspecs/11563_na/11563_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11563_na/11563_na.HTML</a> (Smart Array 642) <a href="http://h18000.www1.hp.com/products/quickspecs/10429_na/10429_na.HTML">http://h18000.www1.hp.com/products/quickspecs/10429_na/10429_na.HTML</a> (SCSI Adapter) <a href="http://h18000.www1.hp.com/products/quickspecs/11555_na/11555_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11555_na/11555_na.HTML</a> (U320 Adapter)		
<b>Communications</b>	NC6170 Dual Port PCI-X 1000SX Gigabit Server Adapter	313879-B21
	C6770 PCI-X Gigabit Server Adapter, 1000-SX	244949-B21
	NC7170 Dual Port PCI-X 1000T Gigabit Server Adapter	313881-B21
	NC7770 PCI-X Gigabit Server Adapter	244948-B21
<b>Management Options</b>	Remote Insight Lights-Out Edition II	227251-001

### Options

<b>Security</b>	HP/Atalla AXL600L SSL Accelerator Card for ProLiant Servers	524545-B21
	Compaq AXL300 Accelerator PCI Card (HW SSL Encryption) for ProLiant Servers	227933-B21

### Monitors

#### **Essential Series**

Compaq S9500 CRT Monitor (19-inch, Carbon/Silver)	261615-003
Compaq S7500 CRT Monitor (17-inch, Carbon/Silver)	261606-001
Compaq S5500 CRT Monitor (15-inch Carbon/Silver)	261602-001
Compaq TFT1501 Flat Panel Monitor (15-inch, Carbon/Silver)	301042-003
Compaq TFT1701 Flat Panel Monitor (17-inch, Carbon/Silver)	292847-003

#### **Advantage Series**

Compaq V7550 CRT Color Monitor (17-inch, Carbon/Silver)	261611-001
Compaq TFT1720 Flat Panel Monitor (17-inch, Carbon/Silver)	295926-003
Compaq FT1720M Flat Panel Monitor (17-inch, Carbon/Silver, includes speaker, USB port, headphone)	301958-003
Compaq TFT1520 Flat Panel Monitor (15-inch, Carbon/Silver)	295925-003
Compaq TFT1520M Flat Panel Monitor (15-inch, Carbon/Silver includes speaker, USB port, headphone)	301957-003

#### **Performance Series**

HP P930 CRT Monitor (19-inch, Flat-screen, Carbon/Silver)	302268-003
HP P1130 CRT Monitor (21-inch, Flat-screen, Carbon/Silver)	302270-003
HP L1825 Flat Panel Monitor (18-inch, Carbon/Silver)	303486-003
HP L2025 Flat Panel Monitor (20-inch, Carbon/Silver)	303102-003
Compaq TFT1825 Flat Panel Monitor (18-inch, Carbon/Silver)	296751-003
Compaq TFT2025 Flat Panel Monitor (20-inch, Carbon/Silver)	285550-003

#### **Rackmount Flat Panel Monitors**

TFT5110R Flat Panel Monitor (Carbon) (1U rack mountable)	281683-B21
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**NOTE:** Monitors larger than 17" may be too heavy for use in rack systems.

## Options

## Tape Drives

**NOTE:** External tape devices, including both tape drives and tape arrays/enclosures, can be directly connected to the VHDCI SCSI port located on the back of the server. Use of a SCSI adapter to connect these devices is optional, not required.

**External LTO Ultrium Tape Drives**

HP StorageWorks Ultrium 215 Tape Drive for ProLiant, External (Carbon)	Q1544A
HP StorageWorks Ultrium 230 Tape Drive for ProLiant, External (Carbon)	Q1516A
HP StorageWorks Ultrium 460 Tape Drive for ProLiant, External (Carbon)	Q1519A

**NOTE:** Please see the HP StorageWorks Ultrium 215, 230, and 460 Tape Drive QuickSpecs for additional options such as controllers, and other related items, and for an up-to-date listing of the latest O/S Support details, please see the following:

[http://h18006.www1.hp.com/products/quickspecs/11739\\_na/11739\\_na.html](http://h18006.www1.hp.com/products/quickspecs/11739_na/11739_na.html)

**External DAT 72 Tape Backup Drives**

HP StorageWorks DAT 72 for ProLiant, External (Carbon)	Q1527A
HP StorageWorks DAT 72 Tape Drive for Open Connect, External (Carbon)	Q1523A
HP StorageWorks DAT 72 for ProLiant, Internal Hot Plug (Carbon)	Q1529A

**NOTE:** Please see the DAT 72 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://h18000.www1.hp.com/products/quickspecs/11597\\_na/11597\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11597_na/11597_na.HTML)

**Internal and External DAT Tape Drives**

HP StorageWorks DAT 40 Tape Drive for ProLiant, External (Carbon)	Q1554A
HP StorageWorks DAT 40 Tape Drive for Open Connect, External (Carbon)	C5687C
HP StorageWorks DAT 40 Tape Drive for ProLiant, Internal Hot Plug	Q1546A

**NOTE:** Please see the DAT40 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://h18006.www1.hp.com/products/quickspecs/11784\\_na/11784\\_na.html](http://h18006.www1.hp.com/products/quickspecs/11784_na/11784_na.html)

HP StorageWorks DAT 24 Tape Drive for Open Connect, External (Flint)	C1556D
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**NOTE:** Please see the DAT24 Tape Drive QuickSpecs for additional options:

[http://h18006.www1.hp.com/products/quickspecs/11783\\_na/11783\\_na.html](http://h18006.www1.hp.com/products/quickspecs/11783_na/11783_na.html)

**External and Rackmount DLT Tape Drives**

HP StorageWorks DLT VS 40/80 Tape Drive, External (Carbon)	280129-B22
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**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://h18006.www1.hp.com/products/quickspecs/11403\\_na/11403\\_na.HTML](http://h18006.www1.hp.com/products/quickspecs/11403_na/11403_na.HTML)

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

**NOTE:** Please see the DLT 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://h18000.www1.hp.com/products/quickspecs/10658\\_na/10658\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10658_na/10658_na.HTML)

### Options

#### **External and Rackmount SDLT Tape Drives**

HP StorageWorks SDLT 110/220 Tape Drive, External (Carbon)	192103-002
HP StorageWorks SDLT 110/220 Tape Drive, 3U Rackmount (Single Drive)	274331-B21
HP StorageWorks SDLT 110/220 Tape Drive, 3U Rackmount (Two Drives)	274334-B21
HP StorageWorks Rackmount DLT 40/80, Tape Array III, 5U (Four Drives)	274336-B21

**NOTE:** Please see the [SDLT 110/220 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://h18000.www1.hp.com/products/quickspecs/10772\\_na/10772\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10772_na/10772_na.HTML)

HP StorageWorks SDLT 160/320 Tape Drive, External (Carbon)	257319-001
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**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://h18000.www1.hp.com/products/quickspecs/11406\\_na/11406\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11406_na/11406_na.HTML)

#### **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 DAT 24, DAT 40, DAT 72, DLT 40/80, DLT VS 40/80 and the SDLT 110/220-GB, SDLT 160/320-GB, Ultrium 215, Ultrium 230, and Ultrium 460 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 DLT/SDLT tape drives including the 20/40-GB DLT, 35/70-GB DLT, 40/80-GB DLT, SDLT 110/220-GB and the SDLT 160/320-GB tape drives. Also supported are the Ultrium 230 and Ultrium 460 tape drives.

**NOTE:** Please see the [Rackmount Tape Drive Kits QuickSpecs](#) for additional information regarding these kits, please see the following:

[http://h18000.www1.hp.com/products/quickspecs/10854\\_na/10854\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML)

#### **Rackmount Tape Drive Cable Kits**

LVD Cable Kit, VHDCI/HD68	168048-B21
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**NOTE:** For use with the 3U Rackmount Kit and 5U Rackmount Kit only.

LVD Cable Kit, HD68/HD68	242381-B21
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**NOTE:** For use with the 3U Rackmount Kit and 5U Rackmount Kit only.

### Tape Automation

#### **StorageWorks ESL9000 Enterprise System Library**

##### **ESL9322L1 - LTO Ultrium and ESL9322 based enterprise library with up to 8 drives and 222, 322 slots**

ESL9322L1 222 slot 0 DRV LTO1	330832-B21
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##### **ESL9595 and ESL9595 LTO Libraries**

ESL9595 400 slot, zero drives	330833-B21
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**NOTE:** Please see the [StorageWorks ESL9322 Enterprise Library QuickSpecs](#) for additional information including Tape Drives, Cartridges, Controllers, and SCSI Cables and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/11628\\_na/11628\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11628_na/11628_na.HTML)

##### **ESL9322: Common Options**

ESL9322, slot upgrade 222 to 322 slots	293588-B21
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##### **ESL9595: Common Options**

ESL 9000 400 to 500 slot upgrade	330842-B21
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ESL 9000 500 to 595 slot upgrade	330842-B22
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ESL 9000 400 to 595 slot upgrade	330842-B23
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ESL9000 222 to 322 slot upgrade	330840-B21
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##### **Add-on drives & Accessories**



### Options

ESL9000 LVD SDLT 160/320 Drive upgrade (ESL9595S2 and ESL9322S2 only)	293414-B21
ESL9000 LTO2 Upgrade Drive	330834-B21
ESL9000 LTO1 drive upgrade (ESL9322L1 and ESL9595L1 only)	301930-B21
ESL9000 Universal Load Port (support both LTO & SDLT cartridges) Not removable	302254-B21
ESL9000 Field Upgrade SDLT 110/220, LVD Drive (ESL9198SL, ESL9326SL, ESL9595SL only)	234617-B21
ESL9000 Field Upgrade SDLT 110/220, HVD Drive (for existing ESL9326D/DX customers)	234617-B22
LVD Extender Kit for ESL9198DLX, ESL9198SL, ESL9326SL	221249-B21

#### **StorageWorks MSL6000 and MSL5000 mainstream tape libraries**

##### **MSL6060L1 - LTO Ultrium 1 based mainstream library up to 4 drives and 60 slots**

MSL6060, 0 DRV, Ultrium 460, RM Library	331196-B23
MSL6060, 2 DRV, Ultrium 460, RM Library	331196-B21
MSL6060, 2 DRV, Ultrium 460, embedded Fibre, RM Library	331196-B22

**NOTE:** Please see the StorageWorks MSL6060 LTO Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/11608\\_na/11608\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11608_na/11608_na.HTML)

##### **MSL5060L1 - LTO Ultrium 1 based mainstream library up to 4 drives and 60 slots**

MSL5060, 0 DRV, Ultrium 230, RM Library	301899-B21
MSL5060, 2 DRV, Ultrium 230, RM Library	301899-B22
MSL5060, 2 DRV, Ultrium 230, embedded Fibre, RM Library	301899-B23

**NOTE:** Please see the StorageWorks MSL5060 LTO Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/11438\\_na/11438\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11438_na/11438_na.HTML)

##### **MSL5052S2 - SDLT160 based mainstream library up to 4 drives and 52 slots**

MSL5052S2, 0 DRV, SDLT 160/320, RM Library	255102-B21
MSL5052S2, 2 DRV, SDLT 160/320, RM Library	293474-B21
MSL5052S2, 2 DRV, SDLT 160/320, RM Library with embedded Fibre	293474-B24

**NOTE:** Please see the StorageWorks MSL5052S2 Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/11442\\_na/11442\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11442_na/11442_na.HTML)

##### **MSL6030 - LTO Ultrium 1 based mainstream library up to 4 drives and 60 slots**

MSL6030, 0 DRV, RM Library	330731-B21
MSL6030, 1 DRV, LTO Ultrium 460, RM Library	330731-B22
MSL6030, 2 DRV, LTO Ultrium 460, RM Library	330731-B23
MSL6030, 1 DRV, LTO Ultrium 460, embedded Fibre, RM Library	330731-B24
MSL 6030, 2 DRV, LTO Ultrium 460, embedded Fibre, RM Library	330731-B25

**NOTE:** Please see the StorageWorks MSL6030 LTO Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/11625\\_na/11625\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11625_na/11625_na.HTML)

##### **MSL5030L1 - LTO Ultrium 1 mainstream library up to 2 drives and 30 slots**

MSL5030, 0 DRV, RM Library	301897-B21
MSL5030, 1 DRV, LTO Ultrium 230, RM Library	301897-B22
MSL5030, 2 DRV, LTO Ultrium 230, RM Library	301897-B23
MSL5030, 1 DRV, LTO Ultrium 230, embedded Fibre, RM Library	301897-B24
MSL 5030, 2 DRV, LTO Ultrium 230, embedded Fibre, RM Library	301897-B25

**NOTE:** Please see the StorageWorks MSL5030 LTO Library QuickSpecs for additional information including Upgrade Kits, Accessories, and SCSI Cable Kits and additional options needed for a complete solution at:

[http://h18000.www1.hp.com/products/quickspecs/11439\\_na/11439\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11439_na/11439_na.HTML)

### Options

#### **MSL5026S2 - SDLT160 based mainstream library up to 2 drives and 26 slots**

MSL5026S2, 0 DRV, RM Library	293472-B21
MSL5026S2, 1 DRV, SDLT 160/320, RM Library	293472-B22
MSL5026S2, 2 DRV, SDLT 160/320, RM Library	293472-B23
MSL5026S2, 1 DRV, SDLT 160/320, RM Library with embedded Fibre	293472-B24
MSL5026S2, 2 DRV, SDLT 160/320, RM Library with embedded Fibre	293472-B25

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

[http://h18000.www1.hp.com/products/quickspecs/11453\\_na/11453\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11453_na/11453_na.HTML)

#### **MSL5026SL Graphite - SDLT110 based mainstream library up to 2 drives and 26 slots**

MSL5026SL, 1 DRV SDLT RM, graphite	302512-B21
MSL5026SL, 2 DRV SDLT RM, graphite	302512-B22

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

[http://h18000.www1.hp.com/products/quickspecs/11440\\_na/11440\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11440_na/11440_na.HTML)

#### **MSL5026DLX- 40/80GB DLT based mainstream library up to 2 drives and 26 slots**

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

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

[http://h18000.www1.hp.com/products/quickspecs/10860\\_na/10860\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10860_na/10860_na.HTML)

#### **MSL6000 and MSL5000 Add-on drives & accessories**

MSL5000 SDLT 160/320 Upgrade DRV (MSL5052S2 & MSL5026S2 only)	293475-B21
MSL Ultrium 460 upgrade drive in hot plug canister	
MSL5000 LTO Ultrium 1 Upgrade DRV (MSL5060L1 & MSL5030L1 only)	301901-B21
MSL5000 SDLT 110/220 Upgrade DRV	231823-B22
MSL5000 40/80GB DLT Upgrade DRV	231823-B21
MSL5000 Dual Magazine LTO (2 X 15 slot magazines)	301902-B21
MSL5000 Dual Magazine DLT (2 X 13 slot magazines)	232136-B21
MSL Universal Pass-Through mechanism	304825-B21
MSL5026, 5U Pass-Through extender (required one for each unit connected to the stack, for third and additional units) - for MSL5026 & MSL5030	231824-B22
MSL5052, 10U Pass-Through Extender (required one for each unit connected to the stack, for third and additional units) - for MSL5052 & MSL5060	231824-B23

#### **DAT Autoloader**

HP StorageWorks DAT40x6 Tape Autoloader for ProLiant, External (Flint)	Q1551A
HP StorageWorks DAT40x6 Tape Autoloader for Open Connect, External (Flint) WW	C5717C
HP StorageWorks DAT40x6 Tape Autoloader for ProLiant, External (Flint)	Q1552A

**NOTE:** Please see the DAT40x6 Tape Autoloader 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://h18006.www1.hp.com/products/quickspecs/11785\\_na/11785\\_na.html](http://h18006.www1.hp.com/products/quickspecs/11785_na/11785_na.html)

#### **HP StorageWorks 1/8 Autoloader**

HP StorageWorks 1/8 Autoloader, Rackmount kit	C9266R
HP StorageWorks 1/8 Autoloader, Tabletop, Ultrium 230	C9572CB
HP StorageWorks 1/8 Autoloader, Tabletop, DLTVS80	C9264CB

#### **SSL1016 tape autoloader**

SSL1016 DLT1 tape autoloader (includes two 8-cartridge magazines and a barcode reader)	330815-B21
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### Options

**NOTE:** Please see the SSL1016 SDLT160/320 tape autoloader Quick Specs for additional information:

[http://h18000.www1.hp.com/products/quickspecs/11626\\_na/11626\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11626_na/11626_na.HTML)

SSL1016 Ultrium 460 tape autoloader 330821-B21

**NOTE:** Please see the SSL1016 SDLT160/320 tape autoloader Quick Specs for additional information:

[http://h18006.www1.hp.com/products/quickspecs/11704\\_na/11704\\_na.HTML](http://h18006.www1.hp.com/products/quickspecs/11704_na/11704_na.HTML)

SSL1016 SDLT160/320 tape autoloader (includes two 8-cartridge magazines and a barcode reader) 330816-B21

**NOTE:** Please see the SSL1016 SDLT160/320 tape autoloader Quick Specs for additional information:

[http://h18006.www1.hp.com/products/quickspecs/11609\\_na/11609\\_na.HTML](http://h18006.www1.hp.com/products/quickspecs/11609_na/11609_na.HTML)

<b>External Storage</b>	HP StorageWorks Modular Smart Array 30 SB	302969-B21
	HP StorageWorks Modular Smart Array 30 DB	302970-B21
	Ultra320 Dual Bus I/O Module for MSA30	287483-B21
	Ultra320 Single Bus I/O Module for MSA 30	287484-B21

<b>HP StorageWorks Modular Smart Array 500</b>	HP StorageWorks Modular Smart Array 500	201724-B21
	Modular Smart Array 500 Starter Kit (includes Modular Smart Array 500 and 2 SA-532 Adapters)	351504-B21
	Modular Smart Array 500 High Availability Kit (includes Modular Smart Array 500 controller, 4-port IO Module, Smart Array Multipath Software and 2 SA-532 Adapters)	351281-B21
	Modular Smart Array 500 Controller	218252-B21
	128-MB Cache Module for Smart Array Controller	153506-B21
	<b>NOTE:</b> 128-MB Cache Module for Smart Array Controller (PN 153506-B21) is an upgrade cache module (128 MB Standard) for Modular Smart Array 500 Controller	
	256-MB Battery-Backed Cache Module	254786-B21
	<b>NOTE:</b> Please see the Modular Smart Array 500 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: <a href="http://h18000.www1.hp.com/products/quickspecs/11050_na/11050_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11050_na/11050_na.HTML</a>	

### Options

<b>Cluster Options</b>	ProLiant Cluster HA/F100 for Modular Smart Array 1000	252408-B24
	ProLiant Cluster HA/F200 for Modular Smart Array 1000	252409-B24
	<b>NOTE:</b> For additional information regarding the ProLiant Cluster HA/F100, HA/F200 for Modular Smart Array 1000 please see the following QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/11035_na/11035_na.html">http://h18000.www1.hp.com/products/quickspecs/11035_na/11035_na.html</a>	
	ProLiant Cluster HA/F500 Enhanced Kit for MA8000/EMA16000	379937-B27
	ProLiant Cluster HA/F500 Enhanced DT Kit for MA8000/EMA16000	164227-B25
	<b>NOTE:</b> For additional information regarding the ProLiant Cluster HA/F500 please see the following QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/10232_na/10232_na.html">http://h18000.www1.hp.com/products/quickspecs/10232_na/10232_na.html</a>	
	ProLiant Cluster HA/F500 Basic Kit for Enterprise Virtual Array	313047-B24
	ProLiant Cluster HA/F500 Enhanced Kit for Enterprise Virtual Array	254623-B24
	<b>NOTE:</b> For additional information regarding the ProLiant Cluster HA/F500 for Enterprise Virtual Array please see the following QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/11055_na/11055_na.html">http://h18000.www1.hp.com/products/quickspecs/11055_na/11055_na.html</a>	
	HP Serviceguard for Linux ProLiant Cluster A.11.14 for Red Hat EL 2.1 (2 node license cluster kit)	305199-B22
	<b>NOTE:</b> Kit includes 2 licenses, documentation and an Ethernet crossover cable.	
	HP Serviceguard for Linux ProLiant Cluster A.11.15 for UnitedLinux 1.0 (2 node license cluster kit)	305199-B23
	<b>NOTE:</b> Kit includes 2 licenses, documentation and an Ethernet crossover cable.	
	HP Serviceguard for Linux License A.11.14 for Red Hat EL 2.1 (single license version)	307754-B22
	<b>NOTE:</b> Kit includes single license version and documentation.	
	HP Serviceguard for Linux License A.11.15 for UnitedLinux 1.0 (single license version)	307754-B23
	<b>NOTE:</b> Kit includes single license version and documentation.	
	<b>NOTE:</b> For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/11518_na/11518_na.html">http://h18000.www1.hp.com/products/quickspecs/11518_na/11518_na.html</a>	
	HP Parallel Database Cluster Model PDC/O2000-MSA1000 for Oracle Real Application Cluster on Windows	279406-B24
	<b>NOTE:</b> For additional information regarding the HP Parallel Database Cluster Model PDC/O2000-MSA1000, please see the following QuickSpecs at: <a href="http://h18000.www1.hp.com/products/quickspecs/10889_na/10889_na.html">http://h18000.www1.hp.com/products/quickspecs/10889_na/10889_na.html</a>	
ProLiant Parallel Database Cluster for Linux - Oracle9i Real Application Cluster	308225-B22	
<b>NOTE:</b> For additional information regarding the ProLiant Parallel Database Cluster for Linux, please see the following QuickSpecs at: <a href="http://www5.compaq.com/products/quickspecs/11688_na/11688_na.html">http://www5.compaq.com/products/quickspecs/11688_na/11688_na.html</a>		
PDC/O5000-EVA Windows RAC Cluster Kit	252478-B24	
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<b>HP StorageWorks Modular Smart Array 1000</b>	HP StorageWorks Modular Smart Array 1000	201723-B22
	Modular Smart Array 1000 Controller	218231-B22
	Modular Smart Array Fibre Channel I/O Module	218960-B21
	Modular Smart Array 1000 Fabric Switch	218232-B21
	Modular Smart Array 1000 Fibre Channel Adapter (FCA) 2101	245299-B21
	Modular Smart Array hub 2/3	286763-B21
	<b>NOTE:</b> Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at <a href="http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML</a>	
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### Options

<b>StorageWorks Modular Array 8000/Enterprise Modular Array 12000</b>	EMA12000 D14 60Hz	175990-B21
	EMA12000 S14 60Hz	175991-B21
	MA8000 60Hz	175992-B21
	EMA12000 Blue 60Hz	175993-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 StorageWorks MA8000/EMA12000 QuickSpecs for FC Hubs, FC switches, platform software, host adapters, disks and options for complete solutions at: [http://h18000.www1.hp.com/products/quickspecs/10545\\_na/10545\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10545_na/10545_na.HTML)

<b>StorageWorks Enterprise Modular Array 16000 FC</b>	EMA16000 D14 60Hz (opal)	238792-B21
	EMA16000 S14 60Hz (opal)	238791-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 software by HP.

**NOTE:** Please see the StorageWorks EMA16000 QuickSpecs for FC switches, platform software, host adapters, disks and options for complete solutions at: [http://h18000.www1.hp.com/products/quickspecs/10812\\_na/10812\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10812_na/10812_na.HTML)

<b>StorageWorks Options</b>	StorageWorks SAN Switch 2/8-EL	322120-B21
	StorageWorks SAN Switch 2/16	322118-B21
	StorageWorks SAN Switch 2/8-EL Upgrade Kit	325888-B21
	StorageWorks SAN Switch 2/16-EL Upgrade Kit	325889-B21
	StorageWorks Director 2/64	286809-B21

**NOTE:** Please see the StorageWorks Director 2/64 QuickSpecs for additional information: [http://h18000.www1.hp.com/products/quickspecs/11003\\_na/11003\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11003_na/11003_na.HTML)

<b>UPS and PDU Power Cord Matrix</b>	<i>Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU 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>	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage	204404-001
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage	192186-002
	Rack-Mountable UPS R6000 (6000VA, 6000 Watt) High Voltage	347207-001
	<b>NOTE:</b> The UPS R6000 has a hardwired input.	
	HP UPS R12000 XR N+x (200-240V) (hardwired)	207552-B22
	<b>NOTE:</b> The UPS R12000 XR has a hardwired input and output; requires a 100A circuit.	

### Options

<b>UPS Options</b>	SNMP Serial Port Card <b>NOTE:</b> Supports tower and rack UPS XR models ranging from 1000 – 3000VA.	192189-B21
	Six Port Card <b>NOTE:</b> Supports tower and rack UPS XR models ranging from 1000 – 3000VA.	192185-B21
	High to Low Voltage Transformer (250VA) <b>NOTE:</b> Supports R6000 UPS series only. 2.5 amps @ 125 Volts max output across two NEMA 5-15.	388643-B21
	Extended Runtime Module, T1000 XR <b>NOTE:</b> 2U each, two ERM maximum.	218967-B21
	Extended Runtime Module, T1500 XR/T2200 XR <b>NOTE:</b> 3U each, one ERM maximum.	218969-B21
	Extended Runtime Module, R1500 XR <b>NOTE:</b> 2U each, two ERM maximum.	218971-B21
	Extended Runtime Module, R3000 XR <b>NOTE:</b> 3U each, one ERM maximum.	192188-B21
	Extended Runtime Module, R6000 <b>NOTE:</b> 3U each, two ERM maximum.	347224-B21
	Extended Runtime Module, R12000 XR, 4U <b>NOTE:</b> 4U each, two ERM maximum.	217800-B21
	R1200 XR Backplate Receptacle Kit, (2) L6-30R <b>NOTE:</b> The R12000 XR Backplate Kit has a hardwired input.	325361-001
	R1200 XR Backplate Receptacle Kit, (2) IEC-309R <b>NOTE:</b> The R12000 XR Backplate Kit has a hardwired input.	325361-B21
	SNMP-EN Adapter <b>NOTE:</b> Supports R6000 UPS series only.	347225-B21
	Multi-Server UPS Card <b>NOTE:</b> Supports R6000 UPS series only.	123508-B21
	Scalable UPS Card <b>NOTE:</b> Supports R6000 UPS series only.	123509-B21

<b>Modular Power Distribution Units - 1U/0U</b> (Up to 32 outlets) <b>NOTE:</b> 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	HP Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) (NA, Japan) <b>NOTE:</b> This mPDU (252663-D71) may also be used to connect the low volt model of the UPS R3000 XR.	252663-D71
	HP Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC) (NA, Japan)	252663-D72
	HP Modular Power Distribution Units (mPDU), High Volt Model, 32A (200-240 VAC) (Int'l)	252663-B31
	HP Modular Power Distribution Units (mPDU), High Volt Model, 40A (200-240 VAC) (WW) <b>NOTE:</b> This mPDU (252663-B21), 40A model has a hardwired input.	252663-B21
	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW) <b>NOTE:</b> This PDU has a detachable input power cord and allows for adaptability to country specific power requirements. This model may also be used with the high volt UPSs R3000 XR and R6000 For North America, need to order cable PN 340653-001. <b>NOTE:</b> Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including shorter jumper cables and country specific power cords: <a href="http://h18000.www1.hp.com/products/quickspecs/11041_na/11041_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11041_na/11041_na.HTML</a> (North America) <a href="http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML">http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML</a> (Worldwide)	252663-B24

### Options

<b>Power Distribution Unit Options</b>	Third Party Modular Power Distribution Unit Mounting Kit	310777-B21
	<b>NOTE:</b> This kit allows you to mount the Modular Power Distribution Units in racks other than the 9000/10000 Series racks (any racks using the standard 19" rail). For more details please refer the Modular Power Distribution Unit QuickSpecs.	
	4.5' IEC C 13 to IEC C14 Power Distribution Unit Jumper Cable (1 per pack)	142257-006
	4.5' IEC C 13 to IEC C14 Power Distribution Unit Jumper Cable (15 per pack)	142257-007
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<b>USB Options</b>	USB Easy Access Keyboard (Carbonite/Silver)	DC168B#ABA
	USB Optical Scroll Mouse (Carbonite)	DD441B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
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<b>Rack Builder</b>	Please see the Rack Builder for configuration assistance at <a href="http://www.compaq.com/rackbuilder/">http://www.compaq.com/rackbuilder/</a> .	
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<b>Third Party Rack Kit</b>	Third Party Rack Kit	274739-B21
	<b>NOTE:</b> The Third party rack kit supports the ML530 G2, ML570 G2, DL740, and DL760 G2. Provides support for any rack, square hole or round hole (including HP Rack System /E and HP Systems) with an adjustment range from 23 ½" – 34" deep.	
	<b>NOTE:</b> The Third Party Rack Kit is required for round hole racks or for square hole racks that do not conform to the adjustment range of the standard rail that ships with the server. Telco Rack Support: <b>NOTE:</b> Support for all 2-post Telco racks requires the Third Party Rack Kit (PN 274739-B21) kit plus an additional option kit from Rack Solutions. The Rack Solutions brackets can be purchased at: <a href="http://www.racksolutions.com/hp">http://www.racksolutions.com/hp</a> .	
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<b>HP Rack 10000 Series</b> (Graphite Metallic)	HP Rack S10614 (14U) Rack Cabinet– Shock Pallet	292302-B22
	HP Rack 10842 (42U, 800mm wide) – Pallet	257415-B21
	HP Rack 10842 (42U, 800mm wide) – Shock Pallet	257415-B22
	HP Rack 10647 (47U) – Pallet	245160-B21
	HP Rack 10647 (47U) – Crated	245160-B23
	HP Rack 10642 (42U) – Pallet	245161-B21
	HP Rack 10642 (42U) – Shock Pallet	245161-B22
	HP Rack 10642 (42U) – Crated	245161-B23
	HP Rack 10636 (36U) – Pallet	245162-B21
	HP Rack 10636 (36U) – Shock Pallet	245162-B22
	HP Rack 10636 (36U) – Crated	245162-B23
	HP Rack 10622 (22U) – Pallet	245163-B21
	HP Rack 10622 (22U) – Shock Pallet	245163-B22
	HP Rack 10622 (22U) – Crated	245163-B23
	HP Rack 10614 (14U) – Shock Pallet	292303-B22
	<b>NOTE:</b> -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>NOTE:</b> It is mandatory to use a shock pallet in order to ship racks with equipment installed. Not all HP equipment is qualified to be shipped in the Rack 10000 series <b>NOTE:</b> For additional information regarding Rack Options, please see the following URL: <a href="http://h18000.www1.hp.com/products/servers/proliantstorage/rack-ptions/index.html">http://h18000.www1.hp.com/products/servers/proliantstorage/rack-ptions/index.html</a> .	
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<b>Rack Options for HP</b>	Rack Blanking Panels – Graphite (Multi)	253214-B26

### Options

#### Rack 10000 Series

<b>NOTE:</b> Contains one each of 1U, 2U, 4U and 8U.	
Rack Blanking Panels – Graphite (1U)	253214-B21
<b>NOTE:</b> The Rack Blanking Panels (PN 253214-B21) contains 10 each of (1U).	
Rack Blanking Panels – Graphite (2U)	253214-B22
<b>NOTE:</b> The Rack Blanking Panels (PN 253214-B21) contains 10 each of (2U).	
Rack Blanking Panels – Graphite (3U)	253214-B23
<b>NOTE:</b> The Rack Blanking Panels (PN 253214-B21) contains 10 each of (3U).	
Rack Blanking Panels – Graphite (4U)	253214-B24
<b>NOTE:</b> The Rack Blanking Panels (PN 253214-B21) contains 10 each of (4U).	
Rack Blanking Panels – Graphite (5U)	253214-B25
<b>NOTE:</b> The Rack Blanking Panels (PN 253214-B21) contains 10 each of (5U).	
800mm Wide Stabilizer Kit (Graphite)	255488-B21
<b>NOTE:</b> 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
<b>NOTE:</b> Roof Mount Includes power cord with IEC320-C13 to Nema 5-15P.	
220V Fan Kit (Graphite)	257414-B21
<b>NOTE:</b> 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 (42U)	248931-B21
<b>NOTE:</b> 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>NOTE:</b> For additional information regarding Rack Options, please see the following URL: <a href="http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html">http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html</a> .	
Ballast Option Kit	120672-B21
9000/10000 Series Offset Baying Kit (42U)	248931-B21
<b>NOTE:</b> 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>NOTE:</b> For additional information regarding Rack Cabinets, please see the following URL: <a href="http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html">http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html</a>	
Rack Rail Adapter Kit (25" depth)	120675-B21
100 kg Sliding Shelf	234672-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
KVM USB Interface Adapter	336047-B21
Server Console Switch 1 x 4 port (100-230 VAC)	400336-001
Server Console Switch, 0 x 1 x 8 port	336044-B21
Server Console Switch, 0 x 2 x 16 port	336045-B21
IP Console Switch Box, 1 x 1 x 16	262585-B21
IP Console Switch Box, 3 x 1 x 16	262586-B21

### Options

IP Console Interface Adapter, 8 pack	262587-B21
IP Console Interface Adapter, 1 pack	262588-B21
IP Console Expansion Module	262589-B21
CPU to Server Console Cable, 12'	110936-B21
CPU to Server Console Cable, 3'	110936-B24
CPU to Server Console Cable, 7'	110936-B25
IP CAT5 Cable 3', 4 pack	263474-B21
IP CAT5 Cable 6', 8 pack	263474-B22
IP CAT5 Cable 12', 8 pack	263474-B23
IP CAT5 Cable 20', 4 pack	263474-B24
IP CAT5 Cable 40', 1 pack	263474-B25
Switch Box Connector Kit (115V)	144007-001
Switch Box Connector Kit (230V)	144007-002
TFT5600 Rack Keyboard Monitor	221546-001
Local Access Cable Kit	232985-B21
1U Rack Keyboard & Drawer (Carbon)	257054-001
<b>NOTE:</b> The 1U Rack Keyboard & Drawer (PN 257054-001) is to be used with the Keyboards for Racks with Trackball (PN 158649-001).	
Input Device Adjustable Rails	287139-B21
<b>NOTE:</b> Input Device Adjustable Rails (287139-B21) are for use with the TFT5110R, TFT5600RKM and integrated keyboard/drawer which is used in mounting into third party racks.	
Input Device Telco Rail	287138-B21
<b>NOTE:</b> Input Device Adjustable Rails (287138-B21) are for use ONLY with the TFT5110R, TFT5600RKM and integrated keyboard/drawer which is used in mounting into third party racks.	
Keyboard/Monitor/Mouse extension cables	169989-001
<b>NOTE:</b> For additional information regarding Rack Options, please see the following URL: <a href="http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html">http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html</a> .	

### Options

<b>HP Factory Express</b>	<b>Factory Installation, Racking, and Customization Services</b>	
	Factory Express Server Configuration Level 1	293355-888
	<b>NOTE:</b> Free Installation of HP Options - Installation of HP Options memory, NICs, hard drives, controllers, processors, I/O cards, pre-install standard OEM OS image, and tape drives. Installation fees will apply to all non-HP certified hardware and asset tags.	
	Factory Express Server Configuration Level 2	266326-888
	<b>NOTE:</b> Includes Level 1 Customer Intent of a ProLiant server and options configuration, OS installation, custom image download, IP addressing, network setting, and custom packaging. Customer unique requirements (quick restore creation, cd duplication, test reports, real-time reporting of server MAC address, password, and RILOE). Customer access, validation and control through VPN (price/server).	
	Factory Express Rack Integration Level 3 with 1 – 3 servers or storage enclosures	325736-888
	Factory Express Rack Integration Level 3 with 4 – 9 servers or storage enclosures	232539-888
	Factory Express Rack Integration Level 3 with 10 or more servers or storage enclosures	325735-888
	<b>NOTE:</b> Includes Level 1 Customer Intent for standard mounted servers and storage units plus standard cable mgmt, RAID configuration, servers & storage, power distribution, networking gear and accessories (price/ra520ck).	
	Factory Express Rack Integration Level 4 with 1 – 3 servers or storage enclosures	325734-888
	Factory Express Rack Integration Level 4 with 4 – 9 servers or storage enclosures	232540-888
	Factory Express Rack Integration Level 4 with 10 or more servers or storage enclosures	325733-888
	<b>NOTE:</b> Includes Level 2 Customer Intent plus customer defined cable management and naming convention, customer furnished image download, IP addressing, cluster configurations (SQL, External storage RAID). Quick restore creation, cd duplication, test reports, real-time reporting of server MAC address, password, RILOE). Customer access and validation through VPN (price/rack).	
	Factory Express Rack Integration Level 5 with 1 – 3 servers or storage enclosures	325732-888
	Factory Express Rack Integration Level 5 with 4 – 9 servers or storage enclosures	232541-888
	Factory Express Rack Integration Level 5 with 10 or more servers or storage enclosures	325731-888
	<b>NOTE:</b> Includes Level 4 Customer Intent plus Custom SW layering and extended test, Customer access, validation and control through VPN, Clustered racks with networking gear and/or external storage array, Start-up installation services custom quote. (price/rack).	
	<b>NOTE:</b> Factory Express Engineered Solution Level 6 is a custom solutions available through Factory Express. Please contact a your local reseller or Account Manager.	

### Service and Support Offerings (HP Care Pack Services)

**NOTE:** These Service and Support Offerings are for Windows NT, Windows 2000 Server/Advanced Server or Novell NetWare Operating System.

#### Hardware Services On-site Service

4-Hour On-site Service 5-Day x 13-Hour Coverage, 3 Years (Canadian Part Number)	FP-HE3EC-36
4-Hour On-site Service, 5-Day x 13-Hour, 3 Years (U.S. Part Number)	331104-002
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years (Canadian Part Number)	FP-HE7EC-36
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number)	401784-002

#### Installation & Start-up Services

Hardware Installation (Canadian Part Number)	FP-HEINS-EC
Hardware Installation (U.S. Part Number)	401794-002
Installation & Start-Up of a ProLiant server and Microsoft O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (U.S. Part Number)	240016-002
Installation & Start-Up of a ProLiant server and Microsoft O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm,	FM-MSTEC-04

### Options

M-F, excl. HP holidays. (Canadian Part Number)	
Installation & Start-Up of a ProLiant server and Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (U.S. Part Number)	331110-002
Installation & Start-Up of a ProLiant server and Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (Canadian Part Number)	FM-LSTEC-04
<b>Support Plus</b>	
Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (U.S. Part Number)	239937-002
Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (Canadian Part Number)	FM-M01E4-36
Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (U.S. Part Number)	331108-002
Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (Canadian Part Number)	FM-L01E4-36
<b>Support Plus 24</b>	
Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (U.S. Part Number)	239939-002
Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (Canadian Part Number)	FM-M02E4-36
Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (U.S. Part Number)	331099-002
Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (Canadian Part Number)	FM-L02E4-36
<b>HP Care Pack Priority Service Plan - Priority Silver</b>	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, 1 System Healthcheck per year (6-3 Part Number for U.S.)	239941-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, 1 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-M04E4-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (6-3 Part Number for U.S.)	239943-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (2-5-2 Part Number for Canada)	FM-M24E4-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review (6-3 Part Number for U.S.)	239981-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review (2-5-2 Part Number for Canada)	FM-N04E4-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for	239983-002

### Options

Novell NetWare Operating System (6-3 Part Number for U.S.)	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Novell NetWare Operating System (2-5-2 Part Number for Canada)	FM-N24E4-36
<b>HP Care Pack Priority Service Plan - Priority Gold</b>	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response (critical), 1-hr response (non-critical), for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive revision management, Upgrade impact planning, 2 System Healthcheck per year (6-3 Part Number for U.S.)	239945-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response (critical), 1-hr response (non-critical), for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review, Upgrade impact planning (2-5-2 Part Number for Canada)	FM-N08E4-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell NetWare Operating System (6-3 Part Number for U.S.)	239987-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell NetWare Operating System (2-5-2 Part Number for Canada)	FM-N28E4-36
<b>HP Care Pack Priority Service Plan - Priority Gold Executive</b>	
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response (critical), 1-hr response (non-critical), for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive revision management, Upgrade impact planning, 2 System Healthcheck per year (6-3 Part Number for U.S.)	239949-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response (critical), 1-hr response (non-critical), for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive revision management, Upgrade impact planning, 2 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-M09E4-36
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (6-3 Part Number for U.S.)	239951-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (2-5-2 Part Number for Canada)	FM-M29E4-36
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response (critical), 1-hr response (non-critical), for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review, Upgrade impact planning (6-3 Part Number for U.S.)	239989-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Software Support, 30 minute response (critical), 1-hr response (non-critical), for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review, Upgrade impact planning (2-5-2 Part Number for Canada)	FM-N09E4-36
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell NetWare Operating System (6-3 Part Number for U.S.)	239991-002
24 x 7 HW, 2-hr response, Named HW engineer; 24 x 7 Gold Subsequent System Support for Novell NetWare Operating System (2-5-2 Part Number for Canada)	FM-N29E4-36

**NOTE:** For more information, customer/resellers can contact  
<http://www.hp.com/services/carepack>

## Memory

HP ProLiant DL740 1.5 GHz/1MB or 2.0GHz/1MB, 2048 MB (4P)

### Standard Memory

2048-MB addressable protected ECC SDRAM DIMM memory (2 x 256-MB DIMMs x 5 Hot-Plug RAID Memory Cartridges. The 5th cartridge is populated for redundancy.)

### Standard Memory Plus Optional Memory

Up to 51,200-MB of addressable ECC SDRAM DIMM memory is available with the installation of optional ECC SDRAM DIMM memory expansion kits.

### Standard Memory Replaced with Optional Memory

Up to 65,536-MB of addressable ECC SDRAM DIMM memory is available with the removal of standard memory and the installation of optional ECC SDRAM DIMM memory expansion kits.

**NOTE:** 8 slots per Hot-Plug RAID Memory Cartridge. Memory must be added in banks of two DIMMs per cartridge across all five (four if running in a non-redundant mode) Hot-Plug RAID Memory Cartridges. Tables do not represent all possible configurations.

		Bank 1 (Standard Memory)		Bank 2		Bank 3		Bank 4	
Memory		Slots							
		1	2	3	4	5	6	7	8
Cartridge 1 (C1)	Standard	256 MB	256 MB						
	Optional	256MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 2 (C2)	Standard	256 MB	256 MB						
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 3 (C3)	Standard	256MB	256 MB						
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 4 (C4)	Standard	256 MB	256 MB						
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 5 (C5)	Standard	256 MB	256 MB						
	Optional	256 MB	256 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

- 2048MB 133MHz ECC SDRAM Memory Option Kit (1 x 2048MB) 317093-B21
- 1024MB 133MHz ECC SDRAM Memory Option Kit (1 x 1024MB) 236854-B21
- 512MB 133MHz ECC SDRAM Memory Option Kit (1x512MB) 236853-B21
- 256MB 133MHz ECC SDRAM Memory Option Kit (1x256MB) 236852-B21

### Memory

HP ProLiant DL740 2.8GHz/2MB, 2.5GHz/1MB or 2.0 GHz/2MB, 4096 MB (4P)

#### Standard Memory

4096-MB addressable protected ECC SDRAM DIMM memory (2 x 512-MB DIMMs x 5 Hot-Plug Memory Cartridges. The 5th cartridge is populated for redundancy.)

#### Standard Memory Plus Optional Memory

Up to 53,248MB of SDRAM DIMM memory is available with the installation of optional SDRAM DIMM memory expansion kits.

#### Standard Memory Replaced with Optional Memory

Up to 65,536-MB of SDRAM DIMM memory is available with the removal of standard memory and the installation of optional SDRAM DIMM memory expansion kits.

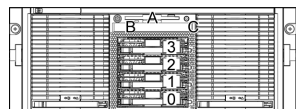
**NOTE:** 8 slots per Hot-Plug RAID Memory Cartridge. Memory must be added in banks of two DIMMs per cartridge across all five (four if running in a non-redundant mode) Hot-Plug RAID Memory Cartridges. Tables do not represent all possible configurations.

		Bank 1 (Standard Memory)		Bank 2		Bank 3		Bank 4	
Memory		Slots							
		1	2	3	4	5	6	7	8
Cartridge 1 (C1)	Standard	512 MB	512 MB						
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 2 (C2)	Standard	512 MB	512 MB						
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 3 (C3)	Standard	512 MB	512 MB						
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 4 (C4)	Standard	512 MB	512 MB						
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
Cartridge 5 (C5)	Standard	512 MB	512 MB						
	Optional	512 MB	512 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB
	Maximum	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

- 2048MB 133MHz ECC SDRAM Memory Option Kit (1 x 2048MB) 317093-B21
- 1024MB 133MHz ECC SDRAM Memory Option Kit (1 x 1024MB) 236854-B21
- 512MB 133MHz ECC SDRAM Memory Option Kit (1x512MB) 236853-B21
- 256MB 133MHz ECC SDRAM Memory Option Kit (1x256MB) 236852-B21

### Storage



0-3	1" Ultra3 Hot Plug Drive Bays
A	1.44-MB Floppy Drive
B	CD/DVD-ROM Drive, Hot Pluggable, in Universal Media Bay
C	Universal Media Bay Eject Button

### Drive Support

	Quantity Supported	Position Supported	Controller
<b>Integrated Media</b>			
Integrated 1.44-MB Diskette Drive	Up to 1	A	Integrated
Slimline DVD-ROM Drive (8X/24X)	Up to 1	B	Integrated IDE

### Hard Drives

#### Ultra320 Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
<b>1-inch</b>	Up to 4	0-3	Integrated Smart Array 5i Controller
146.8-GB 10,000 rpm			Smart Array 532 Controller
72.8-GB 10,000 rpm			Smart Array 5302/128 Controller
36.4-GB 10,000 rpm			Smart Array 5304/256 Controller
72.8-GB 15,000 rpm			Smart Array 5312 Controller
36.4-GB 15,000 rpm			Smart Array 641 Controller
18.2-GB 15,000 rpm			Smart Array 642 Controller
			64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter

**NOTE:** All U320 Universal Hard Drives are backward compatible to U2 or U3 speeds. U320 drives require an optional U320 Smart Array Controller or U320 SCSI HBA to support U320 transfer rates.

## Storage

### External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 30 Family	Up to 13	External	Smart Array 5302/128 Controller Smart Array 5304/256 Controller Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller 64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Modular Smart Array 500 System	1	External	Smart Array 532 Controller (used as Host Bus Adapter) Please see the Modular Smart Array 500 QuickSpecs for the latest list of supported HBAs: <a href="http://www.hp.com/go/msa500">http://www.hp.com/go/msa500</a>
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs
Modular Smart Array 1000: <a href="http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML">http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML</a> (Worldwide) <a href="http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML</a> (North America)			

### Maximum Storage Capacity – (StorageWorks Enclosure SCSI Attached)

Internal	587.2 GB (4 x 146.8-GB Ultra320 1" Drives)
External	49.325 TB hot plug SCSI storage (24 x (14 x 146.8-GB Ultra320 1" Drives))
Total	49.912 TB

### Tape Drives

**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:  
[http://h18000.www1.hp.com/products/quickspecs/North\\_America/10233.html](http://h18000.www1.hp.com/products/quickspecs/North_America/10233.html)

**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:  
[http://h18000.www1.hp.com/products/quickspecs/North\\_America/10809.html](http://h18000.www1.hp.com/products/quickspecs/North_America/10809.html)

	Quantity Supported	Position Supported	Controller
External DAT 72	Up to 2 per controller Up to 3 per controller	External	64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter
Internal AIT 100-GB, Hot Plug Internal AIT 50-GB, Hot Plug Internal AIT 35-GB, LVD, Hot Plug Internal 20/40-GB DAT, Hot Plug Internal StorageWorks DAT 72h, Hot Plug	Up to 1	0+ 1 or 2+ 3	Integrated Smart Array 5i Controller Smart Array 532 Controller* Smart Array 5302/128 Controller Smart Array 5304/256 Controller Smart Array 5312 Controller 64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter <b>*NOTE: The Smart Array 532 Controller does not support the AIT 100-GB Hot Plug Tape Drive.</b>
External AIT 100-GB External AIT 50-GB External AIT 35-GB LVD External DAT 12/24 External DAT 20/40 External DAT 72	Up to 2 per controller Up to 3 per controller	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
External DLT VS 40/80	Up to 3 per	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter

### Storage

External DLT 40/80 controller			
External Ultrium 230 External Ultrium 460	Up to 2 drives per controller	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
External SDLT 110/220 External SDLT 160/320	Up to 2 drives per controller	External	64-Bit/133Mhz Dual Channel Ultra320 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/133Mhz Dual Channel Ultra320 SCSI Adapter
SSL2020 AIT Library	2 drives per SCSI channel	External	64-Bit Dual Channel Wide Ultra2 SCSI Adapter SAN Access Module for Smart Array 5302 Controller
MSL6060L1 (Ultrium 460 - based) Library MSL6030 (LTO Ultrium - based) Library	2 drives per SCSI channel	External	Ultra3 LVD, single channel controller 1 Gb PCI Fibre Channel Adapter 2 Gb PCI Fibre Channel Adapter
MSL5026DLX (40/80GB DLT-based) MSL5026SL (SDLT-based) Library MSL5052SL (SDLT-based) Library MSL5026S2 (SDLT-based) Library MSL5052S2 (SDLT-based) Library MSL5030L1 (LTO-based) Library MSL5060L1 (LTO-based) Library MSL6030 (LTO -based) Library MSL6060 (LTO-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, Alternate OS 64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter
ESL9322 ESL9322S2 ESL9595S2 ESL9595	Please see the <a href="#">ESL Library QuickSpecs</a> below to determine configuration requirements.	External	64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
ESL9322: <a href="http://h18000.www1.hp.com/products/quickspecs/11628_na/11628_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11628_na/11628_na.HTML</a> ESL9322S2: <a href="http://h18000.www1.hp.com/products/quickspecs/11437_na/11437_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11437_na/11437_na.HTML</a> ESL9595S2: <a href="http://h18000.www1.hp.com/products/quickspecs/11436_na/11436_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11436_na/11436_na.HTML</a> ESL9595: <a href="http://h18000.www1.hp.com/products/quickspecs/11629_na/11629_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11629_na/11629_na.HTML</a>			
20/40-GB DAT 8 Cassette Autoloader External	Up to 1	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter

### TechSpecs

<b>System Unit</b>	<b>Dimensions</b> (HxWxD)	7.00 x 17.5 x 28.7 in (17.78 x 44.45 x 72.90 cm)		
	<b>Weight</b>	105 lb (47.63 kg)		
	No hard drives installed, two power supplies			
	<b>Input Requirements</b> (per power supply)	Rated Input Voltage	115 to 120 VAC/200 to 240 VAC (lowline/highline)	
		Rated Input Frequency	47 to 63 Hz (lowline/highline)	
		Input Power	1060W/1440W (lowline/highline)	
		Rated Input Current	10A at 115 VAC/8A at 200 VAC (lowline/highline)	
	<b>BTU Rating</b> (Maximum output) <b>(NOTE that the maximum heat output by the server is equal to the electrical power input.)</b>	1555 Watts [5309 BTU/hr] <b>(System is configured to draw maximum power)</b>	Please refer to the Power Calculator at: <a href="http://h30099.www3.hp.com/configurator/powercalcs.asp">http://h30099.www3.hp.com/configurator/powercalcs.asp</a> .	
	<b>Power Supply Output Power</b> (per power supply)	Rated Steady-State Power	800W/1100W (lowline/highline)	
		Maximum Peak Power	800W/1100W (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). Maximum rate of change is 18° F/Hr (10° C/Hr)	
		Non-operating	-22° to 140 ° F ( -30° to 60° C). Maximum rate of change is 36° F/Hr (20° C/Hr)	
		Shipping	5% to 95% relative humidity, non-condensing	
	<b>Relative Humidity</b> (non-condensing)	Operating	10 to 90% relative humidity, 82.4° F (28° C) maximum wet bulb temperature, non-condensing	
		Non-operating	5 to 95% relative humidity, 101.7° F (38.7° C) maximum wet bulb temperature, non-condensing	
<b>Maximum Wet Bulb Temperature</b>	101.7° F(38.7° C)			
<b>Acoustic Noise</b>	Idle (Fixed Disk Drives Spinning)			
	L WAd (BELS)	7.6		
	L pAm (dBA)	59		

### TechSpecs

<b>Power Supply</b>	<b>1100/800W, Hot Plug Redundant</b> (2 standard)	One Redundant Power Supply (optimized to provide full redundancy at 220 volts)	
	<b>Input Specifications</b>	Normal Line Voltage	115 to 127 VAC/200 to 240 VAC
		Range Input Line	115 to 132 VAC/180 to 265 VAC
		Frequency Range	47 to 63 Hz
		Power Factor	0.95
		Input Current	10 A at 115 VAC/8 A at 200 VAC
		Inrush Current	100 A
		Holdup Time	21 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; 2 A on + 12 V output; 1 A on + 3.3 V output
		<b>Ambient Temperature Range</b>	Operating
	Non-operating		-40° to 185° F (-40° 85° 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	± 1kV line on AC power port for 1 minute; (superimposed on AC line) ± 0.5kV on signal/control lines

<b>1.44-MB Diskette Drive</b>	<b>Size</b>	3.5 in (8.89 cm)	
	<b>LED Indicators</b> (front panel)	Green	
	<b>Read/Write Capacity per Diskette</b> (high/mid/low density)	1.44 MB/1.2 MB/720 KB formatted	
	<b>Drive Supported</b>	One	
	<b>Drive Height</b>	0.50 in/1.27 cm	
	<b>Drive Rotation</b>	300-360/300 rpm	
	<b>Transfer Rate Synchronous</b> (Maximum) (high/mid/low)	500/500/250 K b/s	
	<b>Bytes/Sector</b>	512	
	<b>Sectors/Track</b> (high/low)	18/9	
	<b>Tracks/Side</b> (high/low)	80/80	
	<b>Access Times</b>	Track-to-Track (high/mid/low)	3/3/6 ms
		Average (high/mid/low)	174/94/94 ms
		Settling Time	15 ms
		Latency Average	83/100 ms
	<b>Cylinders</b> (high/low)	80/80	
	<b>Read/Write Heads</b>	Two	

<b>Slim Line CD-RW/DVD-ROM 24X Combo Drive (Multibay)</b>	<b>Shipping Dimensions</b>	13.88 x 11.38 x 9.25 in (35.26 x 28.91 x 23.50 cm)	
	<b>Shipping Weight</b>	5 lb (2.27 kg)	
	<b>Disk</b>	<b>Applicable Disk</b>	DVD-ROM
			DVD-R (Read Only)
			2.6 GB/side DVD-RAM (Read Only) 5.2 GB/side DVD-RAM (Read Only)

### TechSpecs

		CD-ROM Mode-1 data disc	
		CD-ROM Mode-2 data disc	
		CD Audio disc	
		CD-Extra	
		CD-RW	
		CD-R	
		CD Text	
		PhotoCD	
		CD-I (mode 2)	
		CD-I Ready	
		CD-Bridge	
	Capacity	DVD-ROM	DVD-SL 4.7 GB/side DVD-DL 8.5 GB/side Double Sided 9.40 GB/side
		DVD-R	3.95 GB/side
		DVD-RAM	2.6 GB/side and 5.2 GB/
		CD-ROM	Mode-1 650 MB (550 MB) Mode-2 742 MB (640 MB)
	Block Size	DVD	2,048 bytes
		CD	2,352 (Mode-0) 2352, 2340, 2336, 2048 bytes (Mode-1) 2352, 2340, 2336, 2048 bytes (Mode-2)
	Diameter	120 mm, 80 mm (with adapter at vertical mounting mode)	
<b>Loading Mechanism</b>	Tray type		
<b>Interface</b>	EIDE (ATAPI)		
<b>Access Times (typical)</b>	Random	DVD-ROM < 120 ms, CD-ROM < 110 ms	
	Full-Stroke	DVD-ROM < 240 ms, CD-ROM < 160 ms	
<b>Audio Output Level (typical)</b>	Line-out	CD 0.7 Vrms at 47 Kohms Load	
<b>Data Transfer Rate (sustained)</b>	DVD-ROM	Single Layer	10.8 MB/sec. Max.
	DVD-RAM	2.77 MB/sec. Max	
	CD-ROM	7.2 MB/sec. Max.	
<b>Cache Buffer</b>	2 MB		
<b>Spin-up Time (typical)</b>	less than 10 seconds		
<b>MTBF</b>	120,000 Power On Hours (POH)		
<b>Ambient Temperature</b>	Operating	-22° to 140° F (-30° to 60° C)	
<b>Relative Humidity</b>	Operating	10% to 80%	
	Storage/Transportation	5% to 95%	
<b>Dimensions</b>	(HxWxD, maximum)	0.5 x 5.04 x 5.1 in (12.7x128x129.4 mm)	
<b>Option Kit Contents</b>	DVD-ROM drive with installation guide, warranty card, registration card		

### TechSpecs

<b>Smart Array 5i Controller</b> (integrated on system board)	<b>Protocol</b>	Wide Ultra3 SCSI
	<b>Processor</b>	32-bit RISC
	<b>XOR engine</b>	Hardware RAID
	<b>Electrical interface</b>	Low Voltage Differential (LVD)
	<b>Simultaneous Drive Transfer Channels</b>	2
	<b>Channel Transfer Rate</b>	320 MB/s total; 160 MB/s per channel
	<b>SCSI Port Connectors</b>	One external and one internal SCSI port
	<b>Memory</b>	32 MB of DRAM used for code, transfer buffers, and non-battery-backed read cache
	<b>Peak transfer rate</b>	160 MB/s
	<b>Logical Drives Supported</b>	32
	<b>Software Upgradeable Firmware</b>	Yes
	<b>RAID Support</b>	RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping and Mirroring) RAID 1 (Mirroring) RAID 0 (Striping)
	<b>Disk Drive and Enclosure Protocol Support</b>	Ultra2 and Ultra3

<b>Two NC7781 PCI-X Gigabit NICs</b> (embedded)	<b>Network Interface</b>	10/100/1000-T
	<b>Compatibility</b>	EEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 80.3u 100Base-TX
	<b>Data Transfer Method</b>	64-bit/66MHz PCI-X
	<b>Network Transfer Rate</b>	10Base-T (Half-Duplex), 10 Mb/s 10Base-2 10Base-T (Full-Duplex), 20 Mb/s 100Base-TX (Half-Duplex), 100 Mb/s 100Base-TX (Full-Duplex), 200 Mb/s 1000Base-TX (Half Duplex), 1000 Mb/s 1000Base-T (Full Duplex), 2000 Mb/s
	<b>Connector</b>	RJ-45
	<b>Cable Support</b>	10Base-T, Categories 3, 4 or 5 UTP up to 328 ft (100 m) 100Base-TX, Category 5 UTP up to 328 ft (100 m)

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