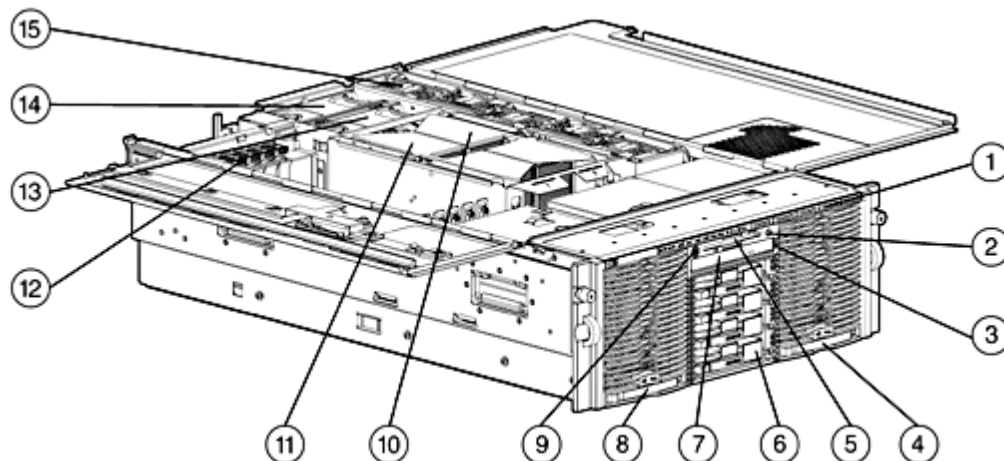


Overview



- | | |
|--|--|
| 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 Diskette 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 (hot pluggable) | 14. Redundant Hot Plug Fan #1 |
| | 15. Hot Plug RAID Memory Cartridges (five total) |

What's New

- Intel® Xeon® Processor MP 3.0 GHz/4MB, 2.7 GHz/2MB, or 2.2 GHz/2MB Processors (eight processor capability)

At A Glance

- Uncompromising 8-way performance and availability in an ultra dense, 4U form factor
- Intel Xeon Processor MP 3.0 GHz/4MB, 2.7 GHz/2MB, 2.2 GHz/2MB 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 1.20TB (4 x 300GB Ultra320 hard drives running at Wide Ultra3) or one DAT hot plug tape drive and two hot plug hard drives
- 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)
- Protected by HP Services and a worldwide network of resellers and service providers. Three-year Next Business Day, on-site

Overview

limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives.

Standard Features

Processor <i>One of the following depending on Model</i>	(4) Intel Xeon Processor MP 3.0 GHz/4MB (4) Intel Xeon Processor MP 2.7 GHz/2MB (4) Intel Xeon Processor MP 2.2 GHz/2MB
Cache Memory <i>One of the following depending on Model</i>	4MB Integrated Level 3 cache (per processor) NOTE: Available with 3.0 GHz models. 2MB Integrated Level 3 cache (per processor) NOTE: Available with 2.7 GHz or 2.2 GHz models.
Upgradeability	Upgradeable to eight processors
Chipset	HP developed F8 chipset
Memory Protection	Advanced ECC Hot Plug RAID Memory
Memory <i>One of the following depending on Model</i>	Type 133MHz ECC SDRAM DIMMs Standard 4 GB (2 x 512 MB x 5 HP RAID Memory Cartridges) (for 2.7 GHz and 3.0 GHz models) (The 5th cartridge is populated for redundancy) NOTE: Available with 3.0 GHz or 2.7 GHz models. Standard 2 GB (2 x 256 MB x 5 HP RAID Memory Cartridges) (for 2.2 GHz models only) (The 5th cartridge is populated for redundancy) NOTE: Available with 2.2 GHz model. Maximum 64 GB addressable (80 GB total) NOTE: All models come standard with all five memory cartridges populated and Hot Plug RAID Memory enabled. 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.)
Network Controller	Two NC7781 PCI-X Gigabit NICs (embedded)

Standard Features

Expansion Slots	Slot Number	Bus Speed	Bus Number	Hot Plug	PCI Voltage	Notes
	1	64-bit 100MHz PCI-X	7	Yes	3.3V	
	2	64-bit 100MHz PCI-X	7	Yes	3.3V	
	3	64-bit 100MHz PCI-X	11	Yes	3.3V	
	4	64-bit 100MHz PCI-X	11	Yes	3.3V	
	5	64-bit 100MHz PCI-X	3	Yes	3.3V	
	6	64-bit 100MHz PCI-X	3	Yes	3.3V	

NOTE: All slots can accept universal keyed PCI cards.

Storage Controllers 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 Ultra320 storage controllers in an I/O slot to internal drives via array bypass cable kit and required cables ships with all HP ProLiant DL740 in the accessories package.

Storage
 Diskette Drive 1.44 MB Diskette Drive
 Optical Drive (in the Universal Media Bay) Integrated Slimline CD/DVD-ROM (8X/24X) Combo Drive Option Kit
 Hard Drives None

Maximum Internal Storage Type Hot Plug SCSI 1.20TB 4 x 300GB Ultra320, Drives (internal hot plug cage only)

Interfaces
 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

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

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

Standard Features

ProLiant Essentials Foundation Pack Software

HP Systems Insight Manager

HP's new HP Systems Insight Manager (HP SIM) helps 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. HP SIM are both easy to set up work with the Insight Management Agents, integrated Lights-Out and Remote Insight Lights-Out Edition, and Version Control Agents to deliver robust fault, configuration, and asset management as well as remote administration. With HP SIM customers will also be able to take advantage of role-based security; the ability to manage ProLiant, Integrity, and HP 9000 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 SIM visit <http://www.hp.com/go/hpsim>.

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 <http://www.hp.com/servers/smartstart>. SmartStart version supported (minimum): SmartStart 6.20.

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 Systems Insight Manager 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 <http://www.hp.com/servers/manage>.

Subscriber's Choice

Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides automatic delivery of software and driver change notifications for ProLiant products. Sign up at <http://www.hp.com/go/subscriberschoice> and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.

ROMPaa, support software, and configuration utilities

The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages, linked from the SmartStart website at <http://www.hp.com/servers/smartstart>.

Survey Utility and diagnostics utilities

The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.

Standard Features

Optional ProLiant Essentials Value Packs

Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs:

- Rapid Deployment Pack - an automated solution for multi-server deployment and provisioning, enabling companies to quickly and easily adapt to changing business demands.
- 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.
- Integrated Lights-Out Advanced Pack - upgrades the Integrated Lights-Out processor to full virtual presence and control with graphical console and virtual media.
- 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.
- Intelligent Networking Pack - detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions, plus it provides an extra layer of protection. The virus throttle feature of the solution slows the propagation of fast spreading virus
- Vulnerability and Patch Management Pack - identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats.
- Virtual Machine Management Pack - provides central management and control of virtual machines from Microsoft and VMware. Integrated approach provides the ability to manage both physical and virtual resources from a single management console.
- Server Migration Pack - The Server Migration Pack automates the manual processes required for migrating servers between physical or virtual platforms (P2V, V2P, and V2V).

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)

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

Dual Redundant Hot Plug Fans

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

UPS and PDU Power Cord Matrix

Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units:
<ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf>.

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: A maximum of two power supplies are supported and ship standard with each server. Use of 110V power is not recommended.

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).

Standard Features

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)
VMware Virtualization Software

NOTE: For a more complete and up-to-date listing of supported OS's and versions, please visit our OS Support Matrix at: <http://www.hp.com/go/supportos>.

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>.

NOTE: For more complete and up-to-date information on how to buy server operating systems from HP please visit the OS product site at: <http://h18004.www1.hp.com/products/servers/software/OEM.html>

NOTE: For more information on HP's Certified and Supported ProLiant Servers, please visit the VMware Server Support Matrix at:
<http://h18004.www1.hp.com/products/servers/software/vmware/hpvmwarecert.html>.

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.

Standard Features

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSA1000, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to <http://www.hp.com/go/factory-express>.

Custom Builder

Please see the Enterprise Configurator for configuration assistance at: <http://www.hp.com/products/configurator>.

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of resellers and service providers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

NOTE: Limited warranty includes 3 year parts, 3 year labor, 3-year on-site support

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMWare-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

HP Care Pack services include coverage for the HP branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3kVA; these items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

Standard Features

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Models

DL740R01 X3.0-4MB, 4096MB (4P) 348445-xxx	Processor(s)	(4) Intel Xeon Processors MP at 3.0 GHz standard (up to 8 supported)
	Cache Memory	4-MB integrated Level 3 cache (per processor)
	Memory	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	Network Controller	Two NC7781 PCI-X Gigabit NICs (embedded)
	Storage Controller	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	Hard Drives	None
	Internal Storage	1.20 TB maximum (with optional hard drives)
	Cache Accelerator	2-MB Cache coherency accelerator embedded on host board
	Optical Drive	Slimline CD/DVD-ROM Drive (8X/24X)
	Diskette Drive	1.44 MB Diskette Drive
	I/O Slots	PCI-X
	Form Factor	4U Rack Form Factor

DL740R01 X2.7-2MB, 4096MB (4P) 348446-xxx	Processor(s)	(4) Intel Xeon Processors MP at 2.7 GHz standard (up to 8 supported)
	Cache Memory	2-MB Integrated Level 3 cache (per processor)
	Memory	4096 MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	Network Controller	Two NC7781 PCI-X Gigabit NICs (embedded)
	Storage Controller	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	Hard Drives	None
	Internal Storage	1.20 TB maximum (with optional hard drives)
	Cache Accelerator	2-MB Cache coherency accelerator embedded on host board
	Optical Drive	Slimline CD/DVD-ROM Drive (8X/24X)
	Diskette Drive	1.44 MB Diskette Drive
	I/O Slots	PCI-X
	Form Factor	4U Rack Form Factor

Models

DL740R01 X2.2-2MB, 2048MB (4P) 348447-xxx	Processor(s)	(4) Intel Xeon Processors MP at 2.2 GHz standard (up to 8 supported)
	Cache Memory	2-MB Integrated Level 3 cache (per processor)
	Memory	2048MB (Standard) to 64 GB (Maximum) addressable protected 133MHz ECC SDRAM DIMM (5120 MB total)
	Network Controller	Two NC7781 PCI-X Gigabit NICs (embedded)
	Storage Controller	Integrated Smart Array 5i Controller (Ultra 3 support) (supports RAID 0, 1, 1+0, and 5 across internal hard disk drives)
	Hard Drives	None
	Internal Storage	1.20 TB maximum (with optional hard drives)
	Cache Accelerator	2-MB Cache coherency accelerator embedded on host board
	Optical Drive	Slimline CD/DVD-ROM Drive (8X/24X)
	Diskette Drive	1.44 MB Diskette Drive
	I/O Slots	PCI-X
	Form Factor	4U Rack Form Factor

Country Code Key	XXX=B21	Worldwide
	XXX=291	Japan
	XXX=AA1	PRC

Options

HP ProLiant DL740 Unique Options	<p>Low Line (115V) Cable Kit, C-13 to 5-15P 317424-001</p> <p>DL740 Folding Metal Cable Management Arm 321716-B21</p> <p>NOTE: 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 HP ProLiant 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 HP ProLiant DL740 does not support power redundancy for all configurations when running at low line voltage. Please refer to the Power Supply Calculator http://h71019.www7.hp.com/ActiveAnswers/cache/71108-0-0-0-121.aspx to determine if your low line configuration is redundant.</p>
ProLiant Essentials Value Pack Software	<p>ProLiant Essentials Integrated Lights-Out Advanced Pack</p> <p>ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server 263825-B21</p> <p>Featuring: sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites.</p> <p>NOTE: For additional ProLiant Integrated Light-Out Advanced Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11052_div/11052_div.HTML</p> <p>ProLiant Essentials Intelligent Networking Pack</p> <p>ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License 372906-B21</p> <p>NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.</p> <p>NOTE: For additional ProLiant Intelligent Networking Pack - Windows License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12062_div/12062_div.HTML</p> <p>ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License 397004-B21</p> <p>NOTE: For additional ProLiant Intelligent Networking Pack - Linux License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12327_div/12327_div.HTML</p> <p>ProLiant Essentials Performance Management Pack</p> <p>ProLiant Essentials Performance Management Pack, Single-Server License 306696-B21</p> <p>NOTE: For use with a single server. Contains one license with a unique license activation key, HP Management CD and documentation.</p> <p>NOTE: The most recent version of the software can always be downloaded at http://www.hp.com/products/pmp.</p> <p>NOTE: For additional ProLiant Performance Management Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11925_div/11925_div.HTML</p> <p>ProLiant Essentials Rapid Deployment Pack Windows Edition and Linux Edition Release</p> <p>Rapid Deployment Pack, Single-Server License 267196-B21</p> <p>NOTE: This license allows 1 server to be deployed and managed via RDP.</p> <p>Rapid Deployment Pack, Single-Server License (Japan) 267196-291</p> <p>NOTE: This license allows 1 server to be deployed and managed via RDP.</p>

Options

NOTE: For additional ProLiant Essentials Rapid Deployment Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.HTML

http://h18000.www1.hp.com/products/quickspecs/11713_div/11713_div.HTML

ProLiant Essentials Workload Management Pack

ProLiant Essentials Workload Management Pack, Single Server License 303284-B21

NOTE: For additional ProLiant Workload Management Pack License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/11452_div/11452_div.HTML

ProLiant Essentials Virtualization Management Software

ProLiant Essentials Virtual Machine Management Pack, Single-Server License 372214-B21

NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.

ProLiant Essentials Server Migration Pack, Single-Migration License 375345-B21

NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.

NOTE: This license allows 1 server to be migrated from a physical server to a virtual machine. Or this license can be used to migrate a virtual machine from one virtualization layer i.e. VMware GSX to a different virtualization layer such as VMware ESX or Microsoft Virtual Server 2005.

NOTE: For additional ProLiant Essentials Virtualization Management Software License Kits please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12328_div/12328_div.HTML

ProLiant Essentials Vulnerability and Patch Management Pack

ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License 371645-B21

NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.

NOTE: For additional ProLiant Vulnerability and Patch Management Pack License Kits, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12111_div/12111_div.HTML

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>.

HP NetServer integration Services HP NetServer to ProLiant integration and assessment service 304164-002

NOTE: 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.

HP TopTools to Insight Manager 7 installation and startup service 304163-002

NOTE: 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.

Options

Processor	<p>NOTE: Intel Xeon 3.0 GHz/4MB, 2.7 GHz/2MB, 2.2 GHz/2MB, 2.8 GHz/2MB, 2.0 GHz/2MB, 2.5 GHz/1MB, 2.0 GHz/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> <p>(4) Intel Xeon MP 3.0 GHz -4MB Processor Option Kit 351050-B21 NOTE: This processor option kit (PN 351050-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 3.0 GHz-4MB processors.</p> <p>(4) Intel Xeon MP 2.70 GHz -2MB Processor Option Kit 351051-B21 NOTE: This processor option kit (PN 351051-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.7 GHz-2MB processors.</p> <p>(4) Intel Xeon MP 2.20 GHz -2MB Processor Option Kit 351052-B21 NOTE: This processor option kit (PN 351052-B21) supports the HP ProLiant DL760 G2 and the HP ProLiant DL740 servers. This option kit contains 4 x Intel Xeon MP 2.2 GHz-2MB processors.</p> <p>Intel Xeon MP 2.80 GHz -2MB Processor Option Kit (4P) 334037-B21 NOTE: This processor option kit (PN 334037-B21) supports the HP ProLiant DL740 and the HP ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.8 GHz-2MB processors.</p> <p>Intel Xeon MP 2.5 GHz -1MB Processor Option Kit (4P) 339072-B21 NOTE: This processor option kit (PN 339072-B21) supports the HP ProLiant DL740 and the HP ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.5 GHz-1MB processors.</p> <p>Intel Xeon MP 2.0 GHz -1MB Processor Option Kit (4P) 334036-B21 NOTE: This processor option kit (PN 334036-B21) supports the HP ProLiant DL740 and the HP ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.0 GHz-1MB processors.</p> <p>Intel Xeon MP 2.0 GHz -2MB Processor Option Kit (4P) 287520-B21 NOTE: This processor option kit (PN 287520-B21) supports the HP ProLiant DL740 and the HP ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 2.0 GHz-2MB processors.</p> <p>Intel Xeon MP 1.50 GHz-1MB Processor Option Kit (4P) 287519-B21 NOTE: This processor option kit (PN 287519-B21) supports the HP ProLiant DL740 and the HP ProLiant DL760 G2 servers. This option kit contains 4 x Intel Xeon MP 1.50 GHz-1MB processors.</p>
Memory (SDRAM DIMMs)	<p>2048 MB 133MHz ECC SDRAM Memory Option Kit (1 x 2048 MB) 317093-B21</p> <p>1024 MB 133MHz ECC SDRAM Memory Option Kit (1 x 1024 MB) 236854-B21</p> <p>512 MB 133MHz ECC SDRAM Memory Option Kit (1 x 512 MB) 236853-B21</p> <p>256 MB 133MHz ECC SDRAM Memory Option Kit (1 x 256 MB) 236852-B21</p> <p>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.</p>
Optical Drives	<p>HP DVD+R/RW 8X Slim 383975-B21</p> <p>Slimline DVD-ROM Drive (8X/24X) Option Kit (Servers) 264007-B21</p>

Options

Hard Drives

Ultra320 SCSI – Universal Hot Plug

HP 300GB U320 10K Universal HDD	350964-B22
HP 146GB U320 10K Universal HDD	286716-B22
HP 72GB U320 10K Universal HDD	286714-B22
HP 146GB U320 15K Universal HDD	347708-B22
HP 72GB U320 15K Universal HDD	286778-B22
HP 36GB U320 15K Universal HDD	286776-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:

http://h18000.www1.hp.com/products/quickspecs/11531_div/11531_div.HTML
(Worldwide)

Storage Controllers

Smart Array 6402/128 Controller	273915-B21
Smart Array 6404/256 Controller	273914-B21
512MB DDR BBWC Upgrade	372538-B21
Smart Array 641 Controller	291966-B21
Smart Array 642 Controller	291967-B21
128MB Battery-Backed Cache Enabler	351580-B21

NOTE: This 128MB BBWC supports the Smart Array 641 Controller and Smart Array 642 Controller.

256-MB Battery-Backed Cache Module	254786-B21
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NOTE: 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.

64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter	268351-B21
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NOTE: The 64-bit/133-MHz Dual Channel Ultra320 SCSI Adapter (268351-B21) will default to Wide Ultra2 when not used with the Wide Ultra3 hard drives.

Ultra320 Expansion Module for SA-6402	273911-B21
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NOTE: 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:

http://h18000.www1.hp.com/products/quickspecs/1187_div/11587_div.HTML
(Smart Array 6400 Series)

http://h18000.www1.hp.com/products/quickspecs/12067_div/12067_div.HTML
(Smart Array 641)

http://h18000.www1.hp.com/products/quickspecs/12069_div/12069_div.HTML
(Smart Array 642)

http://h18000.www1.hp.com/products/quickspecs/10429_div/10429_div.HTML
(SCSI Adapter)

http://h18000.www1.hp.com/products/quickspecs/11555_div/11555_div.HTML
(U320 Adapter)

Options

Communications	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21
	HP NC7771 PCI-X 1000T Gigabit Server Adapter	290563-B21
	NOTE: Any NIC on the option list can be used for redundancy with the embedded NC7781 Network Controller.	
	HP NC570C PCI-X Dual-port 4x Fabric Adapter	376158-B21
	HP 24-Port 4x Fabric Copper Switch	376227-B21
	HP 1m 4x Fabric Copper Cable	376232-B21
	HP 3m 4x Fabric Copper Cable	376232-B22
	HP 5m 4x Fabric Copper Cable	376232-B23

Management Options	Remote Insight Lights-Out Edition II (NA, LA)	227251-001
	Remote Insight Lights-Out Edition II (EMEA)	227251-021
	Remote Insight Lights-Out Edition II (ROW)	227251-371

Tape Drives

NOTE: For the complete listing of Tape Drive offerings for this server, please visit: <http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

For recommended tape drive offerings for this ProLiant server see the following:

Hot Plug Tape Drives

HP StorageWorks DAT 72 SCSI Hot-plug Tape Drive (Carbon) Q1529A

USB Tape Drives

HP StorageWorks DAT 72 USB External Tape Drive (Carbonite) DW027A

External and Rack-Mount Ultrium Tape Drives

HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite) DW064A

NOTE: No internal tape drives fit inside this HP ProLiant server (except hot plug tape). The internal drive shown here is for the 1U and 3U Rack-mount Kit.

HP StorageWorks Ultrium 232 External Tape Drive (Carbonite) DW065B

HP StorageWorks Ultrium 448 External Tape Drive (Carbonite) DW017B

HP StorageWorks Ultrium 960 External Tape Drive (Carbonite) Q1539B

HP StorageWorks 3U Rack-mount kit with one Ultrium 960 (Carbonite) Q1595A

NOTE: Please see the HP StorageWorks Ultrium Tape Drive QuickSpecs for additional options such as controllers, media, and other related items: http://h18006.www1.hp.com/products/quickspecs/11739_div/11739_div.html (Worldwide)

For an up-to-date listing of the latest O/S and software support details for HP Ultrium tape drives, please visit: <http://www.hp.com/go/connect>.

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U Rack-Mount Kit A7445B

NOTE: The 1U Rack-mount Kit can support up to (2) half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including the DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, Ultrium 215, Ultrium 232 and Ultrium 448 tape drives.

HP StorageWorks 1U USB Rack-Mount Kit A8007A

Options

1U USB Cable Option Kit 396114-B21

NOTE: Converts a 1U SCSI rack-mount kit to a USB interface to support the USB tape drives.

HP StorageWorks 3U Rack-Mount Kit 274338-B22

NOTE: The 3U Rack-mount Kit 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 DAT 24, DAT 40, DAT 72, DLT VS80, DLT VS160, SDLT 320, SDLT 600, Ultrium 215, Ultrium 230, Ultrium 232, Ultrium 460, Ultrium 448 and Ultrium 960 tape drives.

NOTE: Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits:

http://h18000.www1.hp.com/products/quickspecs/10854_div/10854_div.HTML
(Worldwide)

Tape Autoloaders

DAT Autoloader

HP StorageWorks DAT 72x6 Autoloader (External) Q1567A

NOTE: Please see the DAT Tape Autoloader QuickSpecs for additional options such as host bus adapters, controllers and media:

http://h18000.www1.hp.com/products/quickspecs/11985_div/11985_div.HTML
(Worldwide)

HP StorageWorks 1/8 Tape Autoloader

HP StorageWorks 1/8 Ultrium 960 Tape Autoloader AF204A

HP StorageWorks 1/8 Ultrium 448 Tape Autoloader AF203A

HP StorageWorks 1/8 Ultrium 232 Tape Autoloader AF202A

1/8 Tape Autoloader Rackmount Kit C9268R

NOTE: Required to install the unit in a standard 19-inch rack; includes rails and rackmount instructions

NOTE: Please reference the 1/8 Tape Autoloader QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>.

Options

Tape Libraries

HP StorageWorks MSL2024 Tape Library		
HP StorageWorks MSL2024 1 Ultrium 960 Drive Library		AG115A
HP StorageWorks MSL2024 1 Ultrium 448 Drive Library		AG116A
HP StorageWorks MSL2024 2 Ultrium 448 Drive Library		AG117A
HP StorageWorks MSL4048 Tape Library		
HP StorageWorks MSL4048 1 Ultrium 448 Drive Library		AG320A
HP StorageWorks MSL4048 2 Ultrium 448 Drive Library		AG321A
HP StorageWorks MSL4048 1 Ultrium 960 Drive Library		AG322A
HP StorageWorks MSL4048 2 Ultrium 960 Drive Library		AG323A
HP StorageWorks MSL6000 Tape Library		
Ultrium 960 technology		
HP StorageWorks MSL6030 1 Ultrium 960 Dr LVDS Library		AD606A
HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library		AD608A
HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library		AD607A
HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library		AD609A
Ultrium 460 technology		
HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library		AD598A
HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library		AD600A
HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library		AD599A
HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library		AD601A
NOTE: Please reference the MSL2024 and MSL6000 Tape Library QuickSpecs at http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at http://www.hp.com/go/ebs .		

Magneto-Optical Jukeboxes

HP StorageWorks 9.1 GB Optical Jukeboxes		
600mx, 4 drive, 64 slot jukebox		C1160M
1200mx, 4 drive, up to 128 slots		C1104M
2200mx, 6 drive, up to 238 slots		C1107M
NOTE: Please see the HP StorageWorks Magneto-Optical Products data sheet for a complete listing of available jukeboxes at: http://www.hp.com/products1/storage/products/archivalprod/brochures/MO_family_pb.pdf		
NOTE: Please reference the Magneto-Optical Jukebox data sheets at http://www.hp.com/go/optical for additional information needed to create a complete solution.		

Ultra Density Optical Jukeboxes

1900ux, 4 drive, 64 slot jukebox		AA966A
3800ux, 4 drive, 128 slot jukebox		AA969A
7100ux, 6 drive, 238 slot jukebox		AA971A
NOTE: Please see the HP StorageWorks Ultra Density Optical Jukeboxes QuickSpecs for a complete listing of available jukeboxes at: http://h18006.www1.hp.com/products/quickspecs/11944_div/11944_div.html		
NOTE: Please reference the Ultra Density Optical Jukebox QuickSpecs at http://www.hp.com/go/optical for additional information needed to create a complete solution.		

Options

HP Data Protector Express Software	<p>HP DP Express Backup Server Upgrade for ProLiant Software BB117AP</p> <p>HP DP Express Package for Microsoft Small Business Server BB118AA</p> <p>NOTE: Please see the HP Data Protector Express QuickSpecs for additional information regarding the purchase of HP Data Protector Express software: http://h18000.www1.hp.com/products/quickspecs/12337_div/12337_div.html (Worldwide)</p>	
HP StorageWorks Modular Smart Array 20	<p>HP StorageWorks Modular Smart Array 20 335921-B21</p> <p>NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.</p>	
	<p>HP StorageWorks Modular Smart Array 20 Starter Kit 366172-B21</p> <p>NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller.</p> <p>NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.</p>	
HP StorageWorks Modular Smart Array 30	<p>HP StorageWorks Modular Smart Array 30 SB 302969-B21</p> <p>NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies.</p>	
	<p>HP StorageWorks Modular Smart Array 30 DB 302970-B21</p> <p>NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies.</p> <p>NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.</p>	
HP StorageWorks Modular Smart Array 500	<p>HP StorageWorks Modular Smart Array 500 Generation 2 335880-B21</p> <p>NOTE: Please see the Modular Smart Array 500 Generation 2 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11956_div/11956_div.HTML (Worldwide)</p>	
HP StorageWorks Modular Smart Array 1000	<p>HP StorageWorks Modular Smart Array 1000 201723-B22</p> <p>NOTE: Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)</p>	
HP StorageWorks Modular Smart Array 1500 cs	<p>Modular Smart Array 1500 Controller Shelf AA986A</p> <p>NOTE: Please see the StorageWorks Modular SAN Array 1500 cs QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs</p>	

Options

Cluster Options	<p>ProLiant Cluster Starter Kit 364023-B21</p> <p>NOTE: For additional information regarding the ProLiant Cluster Starter Kit please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11935_div/11935_div.html (Worldwide)</p> <p>HP HA/F200 for Entry SAN Cluster 364026-B22</p> <p>HP HA/F200 for Entry SAN Cluster (Japan) 364026-292</p> <p>NOTE: For additional information regarding the ProLiant Cluster for Entry Level SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11932_div/11932_div.html (Worldwide)</p> <p>ProLiant Cluster HA/F500 for the Enterprise SAN 364024-B21</p> <p>NOTE: For additional information regarding the ProLiant Cluster HA/F500 for Enterprise SAN please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11933_div/11933_div.html (Worldwide)</p> <p>HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 and Red Hat EL 3 & 4 (2 node license cluster kit) 305199-B26</p> <p>HP Serviceguard for Linux A.11.16 for SUSE SLES9 and Red Hat EL 3 & 4 (single license version) 307754-B26</p> <p>HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription T2798AA#001</p> <p>HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription T2798AA#003</p> <p>NOTE: For additional information regarding the HP Serviceguard for Linux License, please see the following QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/11518_div/11518_div.html (Worldwide)</p>
Uninterruptible Power Systems – Rack Mountable	<p>HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage (NA) 204404-001</p> <p>HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage (NA) 192186-001</p> <p>HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (NA) 192186-002</p> <p>HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Japan) 192186-292</p> <p>HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Int'l - detachable cord) 192186-B31</p> <p>HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A IEC309 Plug) 192186-B32</p> <p>HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A CEE 7/7 SCHUKO Plug) 192186-B33</p> <p>HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A BS-546 Plug) 192186-AR1</p> <p>HP UPS R5500 XR, (5000VA, 4500 Watt), High Voltage (NA/Jpn) 326529-D71</p> <p>HP UPS R5500 XR, (6000VA, 5400 Watt), High Voltage (Int'l) 326529-B31</p> <p>HP UPS R12000 XR N+x (200-240V) (WW-hardwired) 207552-B22</p> <p>NOTE: The UPS R12000 XR has a hardwired input and output; requires a 100A circuit.</p>

Options

HP Monitored Power Distribution Unit (PDU)	HP Monitored Power Distribution Unit: Full Rack Version	
	HP 17.3 kVA S2324 Monitored PDU- dual input, 3-phase, 24A (NA/JPN)	370959-D71
	HP 8.3 kVA S1324 Monitored PDU- single input, 3-phase, 24A (NA/JPN)	370960-D71
	HP 16.6 kVA S2140 Monitored PDU- dual input, 1-phase, 40A (NA/JPN)	370961-D71
	HP 8.6 S1140 Monitored PDU- single input, 1-phase, 40A (NA/JPN)	370962-D71
	HP 22.1 kVA S2316 Monitored PDU- dual input, 3-phase, 16A (INTL)	370963-B31
	HP 11 kVA S 1316 Monitored PDU- single input, 3-phase, 16A (INTL)	370964-B31
	HP 14.7 kVA S2132 Monitored PDU- dual input, 1-phase, 32A (INTL)	370965-B31
	HP 7.4 kVA S1132 Monitored PDU- single input, 1-phase, 32A (INTL)	370966-B31
	HP Monitored Power Distribution Unit: Half Rack Version	
	HP 17.3 kVA S348 Monitored PDU- single input, 3-phase, 60A (NA/JPN)	AF916A
	HP 22 kVA S332 Monitored PDU- single input, 3-phase, 32A (INTL)	AF917A

Modular Power Distribution Units - 1U0U (Up to 32 outlets) NOTE: 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)	252663-D71
	NOTE: This mPDU (252663-D71) may also be used to connect the low volt model of the UPS R3000 XR.	
	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)	252663-B21
	NOTE: This mPDU (252663-B21), 40A model has a hardwired input.	
	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) (WW)	252663-B24
	NOTE: 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.	
	HP Modular Power Distribution Unit (mPDU), High Volt Model, 40A, Attached Cord, (NA/JPN)	252663-D73
	HP Modular Power Distribution Unit (mPDU), High Volt Model, 40A, Attached Cord, (Int'l)	252663-B32

NOTE: 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:
http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.HTML
(Worldwide)

Options

Third Party Rack Kit	<p>Third Party Rack Kit</p> <p>NOTE: The Third party rack kit supports the HP ProLiant ML530 G2, HP ProLiant ML570 G2, HP ProLiant DL740, and HP ProLiant 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 1/2" - 34" deep.</p> <p>NOTE: 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.</p> <p>Telco Rack Support:</p> <p>NOTE: 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: http://www.racksolutions.com/hp.</p>	274739-B21
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Rack Adapter Kit	<p>Rack Adapter Kit</p> <p>NOTE: This kit allows HP rack servers to fit in racks that are 24" wide.</p>	332815-B21
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HP Rack 5000 Series (Graphite Metallic)	<p>HP 5642 Rack-Unassembled</p> <p>NOTE: Please see the HP Rack 5642 QuickSpecs for additional part numbers and Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.HTML (Worldwide)</p> <p>NOTE: For additional information regarding Rack Cabinets, please see the following URL: www.hp.com/go/rackandpower.</p>	358254-B21
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HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	<p>10642 G2 (42U) Rack Cabinet - Pallet</p> <p>10642 G2 (42U) Rack Cabinet - Shock Pallet</p> <p>10642 G2 (42U) Rack Cabinet - Crated</p> <p>10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet</p> <p>10642 G2 (42U) Rack Cabinet, without door - Shock Pallet</p> <p>10642 G2 (42U) Rack Cabinet - with Extension, without door - Shock Pallet</p> <p>10636 G2 (36U) Rack Cabinet - Pallet</p> <p>10636 G2 (36U) Rack Cabinet - Shock Pallet</p> <p>10636 G2 (36U) Rack Cabinet - Crated</p> <p>10636 G2 (36U) Rack Cabinet , with Extension - Shock Pallet</p> <p>10636 G2 (36U) Rack Cabinet, without door - Shock Pallet</p> <p>10636 G2 (36U) Rack Cabinet, with Extension, without door - Shock Pallet</p> <p>NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.</p> <p>NOTE: Please see the Rack 10000 G2 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.HTML (Worldwide)</p> <p>NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower.</p>	<p>AF001A</p> <p>AF002A</p> <p>AF003A</p> <p>AF004A</p> <p>AF005A</p> <p>AF006A</p> <p>AF011A</p> <p>AF012A</p> <p>AF013A</p> <p>AF014A</p> <p>AF015A</p> <p>AF016A</p>
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Options

HP Rack 10000 Series (Graphite Metallic)	10642 (42U) Infrastructure Rack (Low Voltage)	379006-001
	10642 (42U) Infrastructure Rack (High Voltage)	379005-001
	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

NOTE: xxxxx-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). xxxxx-B23 (crated) used for air shipments of empty racks.

NOTE: 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.

NOTE: For additional information regarding Rack Options, please see the following URL: <http://www.hp.com/go/rackandpower>

Keyboards and Monitors	TFT7210R Rack Mounted 17" Monitor	348373-B21
	NOTE: For a complete list of Monitors please view the following URL: http://www.hp.com/go/kvm .	
	TFT7600RKM US	AG052A
	TFT7600RKM UK	AG053A
	TFT7600RKM GR	AG054A
	TFT7600RKM FR	AG055A
	TFT7600RKM IT	AG056A
	TFT7600RKM SP	AG057A
	TFT7600RKM DEN	AG058A
	TFT7600RKM NOR	AG059A
	TFT7600RKM SE/FI	AG060A
	TFT7600RKM SWI	AG061A
	TFT7600RKM PORT	AG062A
	TFT7600RKM BEL	AG063A
	TFT7600RKM JPN2	AG064A
	TFT7600RKM RUS	AG065A
	TFT7600RKM INTL	AG066A
	1U Rack Keyboard & Drawer (Carbon)	257054-xx1
	Country Code Key (for 1U Rack Keyboard & Drawer (PN 257054-xx1))	

Options

XX = 001	US	XX = 091	Norway
XX = 031	UK	XX = 101	Sweden/Finland
XX = 041	Germany	XX = 111	Switzerland
XX = 051	France	XX = 131	Portugal
XX = 061	Italy	XX = 181	Belgium
XX = 071	Spain	XX = 291	Japan
XX = 081	Denmark	XX = B31	International

NOTE: For additional information regarding Rack Options, please see the following URL: <http://www.hp.com/go/rackandpower>.

HP KVM Switch Options	IP Console Switch Box (KVM/IP), 3 x 1 x 16	262586-B21
	IP Console Switch Box (KVM/IP), 1 x 1 x 16	262585-B21
	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	HP 1x 4 USB/PS2 KVM Switch, TT (NA/JPN)	371301-D71
	HP 1x 4 USB/PS2 KVM Switch, TT (AU/NZ)	371301-011
HP 1x 4 USB/PS2 KVM Switch, TT (UK)	371301-031	
HP 1x 4 USB/PS2 KVM Switch, TT (EU)	371301-A21	
HP 1x 4 USB/PS2 KVM Switch, RM (ALL)	371302-B21	
HP PS2 KVM Cable with audio, 6', 2-pack	371730-B21	
HP USB KVM Cable with audio, 6', 2-pack	371729-B21	

NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: <http://www.hp.com/go/kvm>.

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: <http://www.hp.com/go/kvm>.

HP Serial Console Server Options	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-DB9 DCE Female, 1 Pack	AF103A
	Serial Adapter, RJ45-DB9 DCE Female, 8 Pack	AF110A

NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: <http://www.hp.com/go/kvm>.

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: <http://www.hp.com/go/kvm>.

Options

Service and Support Offerings (HP Care Pack Services)

NOTE: The Service and Support Offerings specifying Microsoft O/S in the description cover 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, Electronic U4713E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4714E

Installation & Start-up Services

Hardware Installation, Electronic U4723E

Installation & Start-Up of a ProLiant server and Microsoft or 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, Electronic U4724E

Support Plus

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, Electronic U4725E

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, Electronic U4727E

Support Plus 24

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, Electronic U4726E

Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4728E

6-Hour Call to Repair, On-site Service 7-Day x 24-Hour Coverage, 3 Years

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic U4715E

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

Memory

HP ProLiant DL740 2.2 GHz/2MB

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	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 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	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 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:

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

Memory

HP ProLiant DL740 3.0 GHz/4MB, 2.7 GHz/2MB

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 53,248 MB 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.

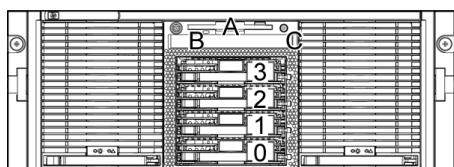
NOTE: 8 slots per Hot-Plug RAID Memory Cartridge. Memory must be added in banks of two DIMMs per cartridge across all five (four if running in a non-redundant mode) Hot-Plug RAID Memory Cartridges. Tables do not represent all possible configurations.

		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:

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

Storage



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

Drive Support

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

Hard Drives

Ultra320 Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
300GB U320 10K	Up to 4	0-3	Integrated Smart Array 5i Controller
146.8GB U320 10K			Smart Array 641 Controller
72.8GB U320 10K			Smart Array 642 Controller
146.8GB U320 15K			64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
72.8GB U320 15K			
36.4GB U320 15K			

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 20	1 per SCSI VHDCI connector	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller
Modular Smart Array 30 Family	Up to 13	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Modular Smart Array 500 G2 System	1	External	Please see the Modular Smart Array 500 QuickSpecs for the latest list of supported HBAs: http://www.hp.com/go/msa500
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 1500 cs	Please see the Modular Smart Array 1500 cs QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1500 cs QuickSpecs (URL below) for the latest list of supported HBAs

Modular Smart Array 1000:

http://h18000.www1.hp.com/products/quickspecs/11033_div/11033_div.HTML (Worldwide)

Modular Smart Array 1500 cs: <http://www.hp.com/go/MSA1500cs>

Maximum Storage Capacity - (SCSI Attached)

Internal	1.20TB (4 x 300GB Ultra320 Drives)
External	100.80TB hot plug SCSI storage (24 x (14 x 300GB Ultra320 Drives))
Total	102.00TB

Tape Drives, Tape Autoloaders, & Tape Libraries

Storage

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/Division/10233.html> (Worldwide)

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Autoloaders & Tape Libraries listed below, please see the following:
<http://h18000.www1.hp.com/products/quickspecs/Division/10809.html> (Worldwide)

NOTE: For complete listing of tape drive offerings see
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

For details on connecting tape drives to this server, see the following:

	Quantity Supported	Position Supported	Controller
HP StorageWorks Tape Drives, Hot Plug DAT 40 Hot Plug DAT 72 Hot Plug	1	0-3	Smart Array 5i Controller (integrated on system board) 64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Tape Drives, USB External DAT 24 USB DAT 40 USB DAT 72 USB	1 per USB port	External	USB port
HP StorageWorks Tape Drives, External Ultrium 232 Ultrium 448 Ultrium 460 DAT 40 DAT 72 DLT VS80 DLT VS160 SDLT 320	Up to 2	External	64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Tape Drives, External Ultrium 960 SDLT 600	1 per SCSI Channel	External	64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Autoloaders, External DAT 72x6 Tape Autoloader 1/8 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

Storage

HP StorageWorks Rack-mount Tape Drive Enclosures

1U Rack-Mount Kit
3U Rack-Mount Kit
5U Rack-Mount Kit

1 per SCSI channel

External

64-Bit/133MHz Dual Channel Ultra320 SCSI Adapter
64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

HP StorageWorks Tape Libraries, External

MSL2024 (Ultrium 448 and 960-based)
MSL4048 (Ultrium 448 and 960-based)
MSL6000 (Ultrium 960 and 460-based)
MSL6000 (SDLT 600-based)
MSL5026S2 (SDLT 320-based)
MSL5052S2 (SDLT 320-based)

Please reference the MSL Tape Library QuickSpecs to determine configuration requirements

External

Please consult the EBS connectivity matrix at <http://www.hp.com/go/ebs> for detailed connectivity information.

Technical Specifications

System Unit	Dimensions (HxWxD)	7.00 x 17.5 x 28.7 in (17.78 x 44.45 x 72.90 cm)		
	Weight	105 lb (47.63 kg)		
	No hard drives installed, two power supplies			
	Input Requirements (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)	
	BTU Rating (Maximum output) (NOTE that the maximum heat output by the server is equal to the electrical power input.)	1555 Watts [5309 BTU/hr] (System is configured to draw maximum power) Use of 110 volt power sources is not recommended.	Please refer to the Power Calculator at: http://h30099.www3.hp.com/configurator/powercalcs.asp .	
	Power Supply Output Power (per power supply)	Rated Steady-State Power	800W/1100W (lowline/highline)	
		Maximum Peak Power	800W/1100W (lowline/highline)	
Temperature Range	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)		
Relative Humidity (non-condensing)	Shipping	5% to 95% relative humidity, 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		
Maximum Wet Bulb Temperature	101.7° F(38.7° C)			
Acoustic Noise	Idle (Fixed Disk Drives Spinning)			
	L WAd (BELS)	7.6		
	L pAm (dBA)	59		

Technical Specifications

Power Supply	1100/800W, Hot Plug Redundant (2 standard)	One Redundant Power Supply (optimized to provide full redundancy at 220 volts)													
	Input Specifications	<table border="0"> <tr> <td>Normal Line Voltage</td> <td>115 to 127 VAC/200 to 240 VAC</td> </tr> <tr> <td>Range Input Line</td> <td>115 to 132 VAC/180 to 265 VAC</td> </tr> <tr> <td>Frequency Range</td> <td>47 to 63 Hz</td> </tr> <tr> <td>Power Factor</td> <td>0.95</td> </tr> <tr> <td>Input Current</td> <td>10 A at 115 VAC/8 A at 200 VAC</td> </tr> <tr> <td>Inrush Current</td> <td>100 A</td> </tr> <tr> <td>Holdup Time</td> <td>21 ms from zero crossing at 120 VAC</td> </tr> </table>	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
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														
	General Specifications	<table border="0"> <tr> <td>Full Output Rating</td> <td>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)</td> </tr> <tr> <td>Minimum Load</td> <td>1 A on + 5 V output; 2 A on + 12 V output; 1 A on + 3.3 V output</td> </tr> </table>	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									
	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														
	Ambient Temperature Range	<table border="0"> <tr> <td>Operating</td> <td>41° to 109° F (5° to 43° C) (End use system maximum ambient of 35°C, plus a maximum of 8° C due to rack effect)</td> </tr> <tr> <td>Non-operating</td> <td>-40° to 185° F (-40° 85° C)</td> </tr> </table>	Operating	41° to 109° F (5° to 43° C) (End use system maximum ambient of 35°C, plus a maximum of 8° C due to rack effect)	Non-operating	-40° to 185° F (-40° 85° C)									
	Operating	41° to 109° F (5° to 43° C) (End use system maximum ambient of 35°C, plus a maximum of 8° C due to rack effect)													
Non-operating	-40° to 185° F (-40° 85° C)														
	Dielectric Voltage Withstand	<table border="0"> <tr> <td>Input to Output</td> <td>3,000 VAC/min</td> </tr> <tr> <td>Input to Ground</td> <td>1,500 VAC/min</td> </tr> </table>	Input to Output	3,000 VAC/min	Input to Ground	1,500 VAC/min									
Input to Output	3,000 VAC/min														
Input to Ground	1,500 VAC/min														
	Input Transient Susceptibility	Common and Differential Mode (superimposed on AC line) ± 1kV line on AC power port for 1 minute; ± 0.5kV on signal/control lines													

Slimline CD/DVD-ROM Combo Drive (8X/24X) (Multibay)	Shipping Dimensions	13.88 x 11.38 x 9.25 in (35.26 x 28.91 x 23.50 cm)		
	Shipping Weight	5 lb (2.27 kg)		
Disk	Applicable Disk	DVD-ROM DVD-R (Read Only) 2.6 GB/side DVD-RAM (Read Only) 5.2 GB/side DVD-RAM (Read Only) CD-ROM Mode-1 data disc CD-ROM Mode-2 data disc CD Audio disc CD-Extra 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

Technical Specifications

		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)	
Loading Mechanism	Tray type		
Interface	EIDE (ATAPI)		
Access Times (typical)	Random	DVD-ROM < 120 ms, CD-ROM < 110 ms	
	Full-Stroke	DVD-ROM < 240 ms, CD-ROM < 160 ms	
Audio Output Level (typical)	Line-out	CD 0.7 Vrms at 47 Kohms Load	
Data Transfer Rate (sustained)	DVD-ROM	Single Layer	10.8 MB/sec. Max.
	DVD-RAM	2.77 MB/sec. Max	
	CD-ROM	7.2 MB/sec. Max.	
Cache Buffer	2 MB		
Spin-up Time (typical)	less than 10 seconds		
MTBF	120,000 Power On Hours (POH)		
Ambient Temperature	Operating	-22° to 140° F (-30° to 60° C)	
Relative Humidity	Operating	10% to 80%	
	Storage/Transportation	5% to 95%	
Dimensions	(HxWxD, maximum) 0.5 x 5.04 x 5.1 in (12.7x128x129.4 mm)		
Option Kit Contents	DVD-ROM drive with installation guide, warranty card, registration card		

Technical Specifications

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

Two NC7781 PCI-X Gigabit NICs (embedded)	Network Interface	10/100/1000-T	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX	
	Data Transfer Method	64-bit/66MHz PCI-X	
	Network Transfer Rate	10Base-T (Half-Duplex), 10Base-2	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-T (Half and Full-Duplex)	2000 Mb/s
	Connector	RJ-45	
	Cable Support	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)	

Technical Specifications

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.