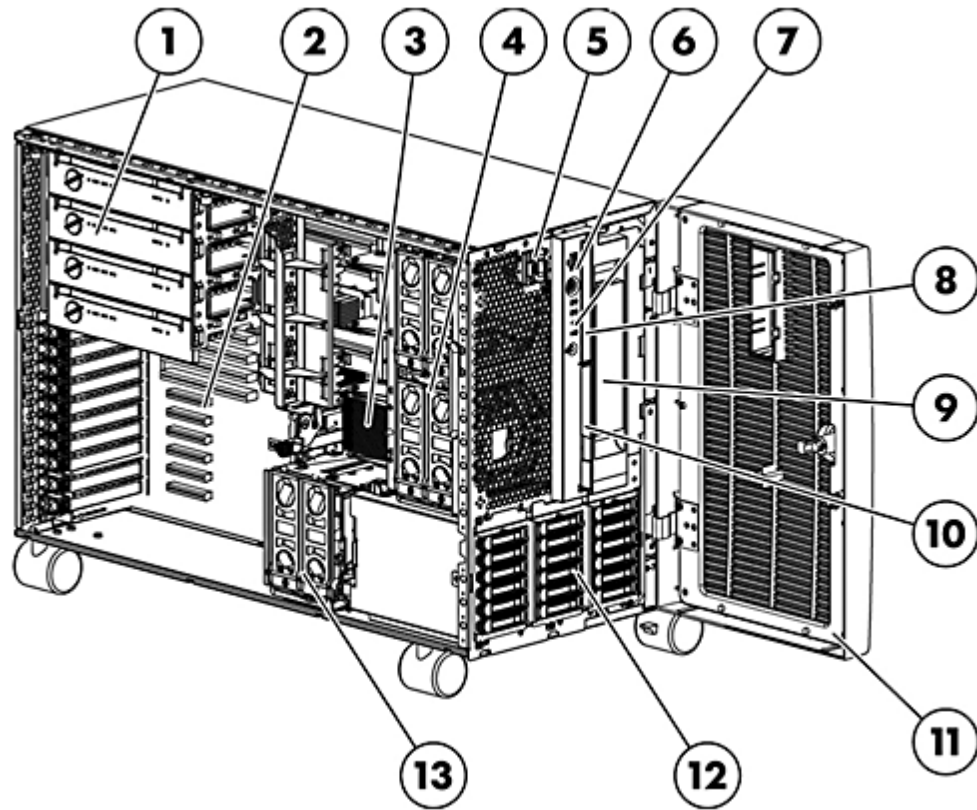


Overview

HP ProLiant ML570 G4 Model (tower)

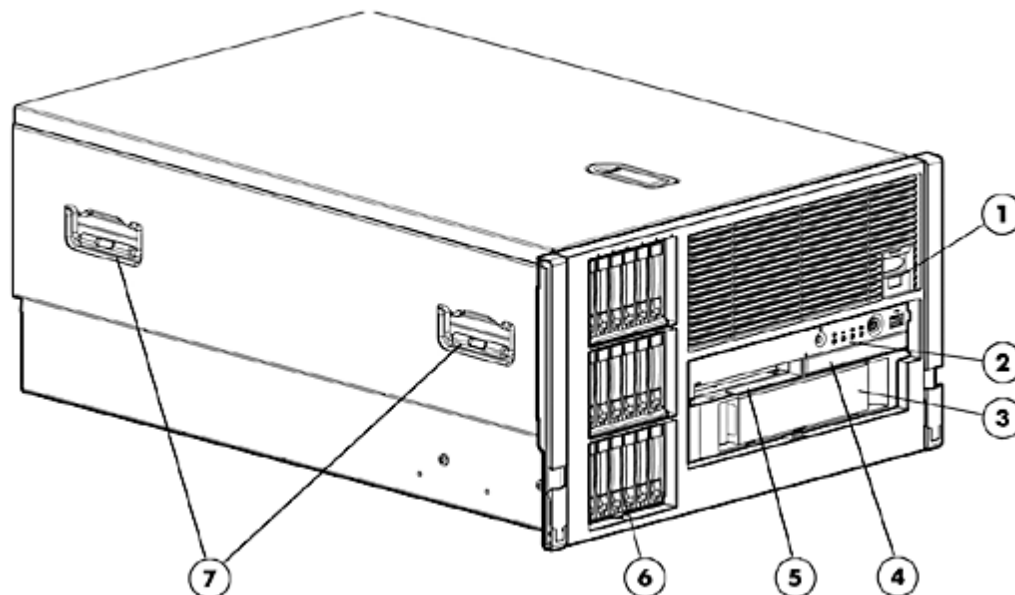


1. Four Memory Boards
2. Ten PCI slots
3. Four Intel Xeon Processors
4. Four Hot Plug Fans
5. Front video
6. Two USB (on front)
7. Front Panel LEDs - Diagnostic Lighting

8. High Speed IDE Slimline DVD Combo Drive
9. 5.25-inch Removable Media Bay (optional)
10. 1.44-MB Diskette Drive (optional)
11. Front Bezel
12. Hot Plug Drive SFF SAS Bays (18 Standard)
13. Two Hot Plug Fans

Overview

HP ProLiant ML570 G4 Model (rack)



- | | |
|---|--|
| 1. Front video/USB ports | 5. 1.44-MB Diskette Drive (optional) |
| 2. Front Panel LEDs - Diagnostic Lighting | 6. Hot Plug Drive SFF SAS Bays (18 Standard) |
| 3. 5.25-inch Removable Media Bay (optional) | 7. Rack handles |
| 4. High Speed IDE Slimline DVD Combo Drive | |

At A Glance

The HP ProLiant ML570 G4 now supports Dual-core processors with an 800MHz Front Side Bus (FSB).

- Dual-Core 64-bit Intel® Xeon™ Processor 7041 (3.00GHz, 2x2MB L2 Cache, 800MHz FSB)
- Dual-Core 64-bit Intel® Xeon™ Processor 7030 (2.80GHz, 2x1MB L2 Cache, 800MHz FSB)

The HP ProLiant ML570 G4 now also offers:

- New Integrated Lights-Out 2 featuring Integrated Remote Console with KVM over IP performance over shared network access
- Smart Array P400 Controller (SAS) with 256MB cache and optional 512MB battery backed write cache. 512MB BBWC standard on High Performance Models.
- More PCI-Express slots with six standard PCI-Express x4 slots
- Optional x4-x8 PCI-Express Bus Expander
- Front video port
- Two front USB 2.0 ports
- Supports up to four dual core 64-bit Intel Xeon Processors and HT Technology, with Dual Independent 800MHz Front Side Buses
- Industry Standard Intel E8501 chipset
- Dense form factor - 6U rack and tower models
- Maximum 64 GB of 2-way interleaved PC2-3200 Registered Memory (DDR2-400) with Advanced ECC capabilities; 4 GB (4 x 1 GB) standard on High Performance models
- Embedded Dual NC371i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine
- Advanced Memory Protection including Hot-plug RAID Memory, Hot-plug Mirrored Memory and Online Spare Memory.
- Tool-free, spring loaded snap-on slide rails designed to accommodate both round and square hole racks
- Four 64-bit/100 MHz PCI-X slots, two full length and two half length

Overview

- SFF SAS Drive Cage standard (18 drives)
- Internal mass storage capacity up to 1.2TB (18 x 72GB hot plug SFF SAS drives)
- Systems Insight Display provides location of degraded component
- Slimline DVD Combo Drive standard, Floppy Drive optional on all models (ejectable)
- Integrated Remote Console and Automatic Server Recovery-2 (ASR-2)
- Optional hot plug redundant power supplies and cooling fans (On high performance models, hot plug redundant fans and power supplies standard)
- Protected by HP Services and a worldwide network of resellers and service providers. Three-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives. SATA hard drives have a one-year warranty.

Standard Features

Processor
One of the following depending on Model

Dual-core 64-bit Intel Xeon 7041 Processor (3.00 GHz, 800MHz FSB)
Dual-core 64-bit Intel Xeon 7030 Processor (2.80 GHz, 800MHz FSB)
NOTE: High Performance models ship standard with two processors while all other models ship with one processor as standard.

Cache Memory
One of the following depending on Model

2x2MB Integrated Level 2 cache
NOTE: Dual-core 3.00 GHz Models only.
2x1MB Integrated Level 2 cache
NOTE: Dual-core 2.80 GHz Models only.

Upgradeability

Upgradeable to quad processing

Chipset

Intel E8501 chipset
NOTE: For more information regarding Intel chipsets, please see the following URL:
<http://www.intel.com/products/server/chipsets/>.

Memory Protection

Advanced ECC
Hot-Plug RAID Memory
Hot-Plug Mirrored Memory
Online Spare Memory

Memory

Type	PC2-3200 Registered Memory (DDR2-400)
Standard	2 GB (2 X 1 GB)
Standard (High Performance models)	4 GB (4 x 1 GB)
Maximum	64 GB

NOTE: For more information regarding Advanced Memory Protection, please see the following URL:
<http://h18000.www1.hp.com/products/servers/technology/memoryprotection.html>.

Network Controller

Embedded Dual NC371i Multifunction Gigabit Network Adapters with TCP/IP Offload Engine

Standard Features

Expansion Slots	Slot Number	Bus Speed	Bus Number*	Device Number**	PCI Voltage	Notes
	1	64-bit/100MHz PCI-X	7	1	3.3 Volt	
	2	64-bit/100MHz PCI-X	7	2	3.3 Volt	
	3	64-bit/100MHz PCI-X	3	1	3.3 Volt	
	4	64-bit/100MHz PCI-X	3	2	3.3 Volt	
	5	PCI Express x4	11	1		
	6	PCI Express x4	14	1		
	7	PCI Express x4	17	1		
	8	PCI Express x4	20	1		
	9	PCI Express x4	27	1		Recommended Smart Array P400 Controller slot
	10	PCI Express x4	24	1		

NOTES:

*Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

**Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

NOTE: For more information regarding PCI-X, please see the following URL: <http://www.HP.com/pci-x>.

NOTE: All PCI-X slots can only accept universal keyed PCI cards running at 3.3 volts.

NOTE: x8 PCI-Express cards are supported in all PCI-Express slots but will run at x4 speeds.

Bus Expansion

The x4-x8 PCI Express Bus Expander is a half-length expansion board. When installed into a x4 PCI Express expansion slot, the x4-x8 PCI Express bus expander converts the adjacent x4 PCI Express expansion slot into a x8 PCI Express expansion slot.

NOTE: The HP ProLiant ML570 G4 Server can support up to three x4-x8 PCI Express bus expander cards. The card can only be installed in expansion slots 6, 8, and 10.

Storage Controllers

One of the following depending on Model

HP Smart Array P400 Controller with 256MB cache (in a PCI-Express slot)

HP Smart Array P400 Controller with 512MB and BBWC

NOTE: Standard on High Performance 2P Models.

Storage

Diskette Drives	1.44 MB Slimline Drive (optional)
Optical Drive	Slimline DVD/CD-RW Combo Drive
Hard Drives	None

Maximum Internal Storage Type

Hot Plug SAS	1.29TB	18 x 72GB SFF SAS
Hot Plug SATA	1.08TB	18 x 60GB SFF SATA

Standard Features

Interfaces	Parallel	1
	Serial	1
	Pointing Device (Mouse)	1
	Front video	1
	Rear video	1
	Keyboard	1
	iLO 2 Remote Management	1
	Front USB 2.0 Ports	2
	Rear USB 2.0 Ports	2
	Dedicated USB 2.0 Ports	1 internal USB 2.0 port for tape drive

NOTE: Please see the following URL for additional information regarding USB support:
<http://h18004.www1.hp.com/products/servers/platforms/usb-support.html>

Network RJ-45	2
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Graphics	Integrated ATI-RN50 with 32MB DDR memory
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Form Factor	Tower or Rack (6U)
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Product Demo	To view the Product Demo, please see the following URL, then click on "PRODUCT TOUR": http://h18004.www1.hp.com/products/servers/proliantml570/index.html .
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ProLiant Essentials Foundation Pack Software	HP Systems Insight Manager	HP's 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 is easy to set up to work with the Insight Management Agents, integrated Lights-Out, 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 7.50.

Standard Features

Insight 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.
ROMPaq, 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.
Insight Diagnostics	The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.
Optional ProLiant Essentials Value Packs	Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs: <ul style="list-style-type: none">• Rapid Deployment Pack (RDP) is an automated deployment and provisioning solution for all ProLiant servers. RDP includes the ProLiant Integration Module featuring ProLiant server pre-configured events for OS installation, and optimized software drivers, firmware and management agents. Every RDP disc includes 10-node trial licenses for evaluation purposes. RDP requires a license for each server deployed and is available for purchase with HP servers. For more information, visit: http://www.hp.com/servers/rdp.• 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 iLO 2 processor with comprehensive remote control including Virtual KVM graphical console, virtual media, power management and enterprise security.• Integrated Lights-Out Select Pack - upgrades the iLO 2 processor with virtual media, power management and enterprise security for text console environments.• 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

Standard Features

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 as 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 2.0 Compliant
PCI 2.2 Compliant
PXE Support
WOL Support
Physical Address Extension (PAE) Support
Microsoft® Logo certifications

Availability

Advanced Memory Protection Technology – delivers unsurpassed memory protection and server availability:

- Advanced ECC Memory

ECC protection provides the ability to detect and correct single bit memory errors while Advanced ECC extends this coverage to include protection against multiple simultaneous errors on a DIMM. Advanced ECC detects and corrects up to 4 bit memory errors that occur within a single DRAM chip on a DIMM. Advanced ECC algorithms work in combination with industry standard ECC DIMMS.

Advanced Memory Protection Configurations

- Online Spare Memory

Offers a higher level of memory protection than Advanced ECC alone. The system is configured with a spare bank of memory. If the number of single-bit correctable errors on a bank exceeds the pre-defined error threshold, the failing bank will fail over to the Online Spare bank without intervention or server interruption. The failed memory can then be replaced at the user's convenience during a scheduled maintenance window.

- Hot Plug Mirrored Memory

Standard Features

Hot Plug Mirrored Memory is a fault-tolerant memory feature that provides a higher level of availability than Advanced ECC or Online Spare Memory because it protects against multi-bit errors and does not require any server downtime to replace failed DIMMs. Hot Plug Mirrored Memory requires that two memory boards be installed, one an exact mirror of the other, which run in parallel and provide protection against multi-bit memory errors. When configured for Hot Plug Mirrored Memory, the system writes to both memory boards, but reads from one. If a read error occurs, the system fails over to the redundant memory board. At that point the memory board containing the failed DIMMs can be hot replaced. Once the failed DIMMs are replaced and the memory board re-installed into the server, the system goes back to full mirrored status. All this occurs without bringing the server down.

- Hot Plug RAID Memory

Hot Plug RAID Memory (RAID Memory) provides a similar level of memory protection as Mirrored Memory but obtains this protection using less total memory. For example, in a RAID Memory configuration, 25% of the installed memory is not available to the operating system. In a Mirrored Memory configuration, however, 50% of the installed memory is not available to the operating system. RAID Memory protects the server against uncorrectable memory errors that would otherwise result in a server failure.

NOTE: All Advanced Memory Protection modes require the use of additional memory cards. All HP ProLiant ML570 G4 servers ship standard with one or two memory boards. Additional memory boards are optional (P/N 348107-B21).

NOTE: All Advanced Memory Protection modes are user configurable through the ROM-Based Setup Utility (RBSU) and viewable through Systems Insight Manager and the Integrated Management Log (IML).

Remote Management

Integrated Lights Out 2 (iLO 2) Standard Management:

- Virtual Text Remote Console
- Virtual Power Button Control
- Integrated Remote Console
- Dedicated & full function shared network connectivity
- Embedded system health
- Browser, command line and scripted access
- Automatic IP Configuration via DHCP/DNS/WINS
- Industry Standard 128-bit Secure Sockets Layer (SSL) and Secure Shell security (SSH)
- OS independent hardware health status
- IML and iLO Event Logging
- Support for 12 user accounts with customizable access privilege

Intelligent Manageability

HP Systems Insight Manager
SmartStart
Redundant ROM
Remote Flash ROM
Management Agent
Integrated Management Log
Automatic Server Recovery (ASR)
Dynamic Sector Repairing (with Smart Array Controllers)
Drive Parameter Tracking (with Smart Array Controllers)
Pre-Failure Warranty (covers processors, SCSI hard drives and memory)

Standard Features

Security	Power-on password Hot plug keyboard password Diskette drive control enable/disable Diskette boot control enable/disable External USB port enable/disable QuickLock, Network Server Mode Parallel and serial interface control Administrator's password Disk configuration lock Locking tower bezel door Lockable access hood				
Server Power Cords	<table><tr><td>Tower Models</td><td><ul style="list-style-type: none">• -001US, -011AUS, -031UK, -041GR, -051FR, -201 BRZL, -291JPN, -371AP, -421EURO, -AA1PRC• US, Europe, UK, Germany, France, Brazil, Japan, and Australia tower models ship with one local power cord. Asia Pacific tower model ships with UK, and Europe power cords. PRC tower model ships with Taiwan, UK, and China power cords.• Localized cables included with geographic specific models in other world regions</td></tr><tr><td>Rack Models</td><td><ul style="list-style-type: none">• -001US, -291JPN, -371AP, -421EURO, -AA1PRC• Japan rack models ship with one local power cord and one C19 to C14 jumper cable. US, Asia Pacific, Europe and PRC rack models all ship with one C19 to C14 jumper cable.• Localized cables included with geographic specific models in other world regions</td></tr></table>	Tower Models	<ul style="list-style-type: none">• -001US, -011AUS, -031UK, -041GR, -051FR, -201 BRZL, -291JPN, -371AP, -421EURO, -AA1PRC• US, Europe, UK, Germany, France, Brazil, Japan, and Australia tower models ship with one local power cord. Asia Pacific tower model ships with UK, and Europe power cords. PRC tower model ships with Taiwan, UK, and China power cords.• Localized cables included with geographic specific models in other world regions	Rack Models	<ul style="list-style-type: none">• -001US, -291JPN, -371AP, -421EURO, -AA1PRC• Japan rack models ship with one local power cord and one C19 to C14 jumper cable. US, Asia Pacific, Europe and PRC rack models all ship with one C19 to C14 jumper cable.• Localized cables included with geographic specific models in other world regions
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Rack Models	<ul style="list-style-type: none">• -001US, -291JPN, -371AP, -421EURO, -AA1PRC• Japan rack models ship with one local power cord and one C19 to C14 jumper cable. US, Asia Pacific, Europe and PRC rack models all ship with one C19 to C14 jumper cable.• Localized cables included with geographic specific models in other world regions				
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	One 910W/1300W Hot Plug Power Supply ships standard. Second power supply is needed for redundancy. Two 910W/1300W Hot Plug Power Supplies ship standard in High Performance Models.				
System Fans	Three fans ship standard with three additional fans for redundancy NOTE: High Performance models ship standard with redundant fans				
Required Cabling	For required cabling information, refer to the Web site at http://h18000.www1.hp.com/products/servers/ProLiantml570/ .				

Standard Features

OS Support

Microsoft Windows 2003 Server
Microsoft Windows 2000 Server
Red Hat Enterprise Linux
SuSE Enterprise Linux
Novell NetWare
SCO OpenServer, UnixWare
Sun Solaris Intel Platform Edition
VMware Virtualization Software

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

NOTE: For a listing of the latest drivers available for the HP ProLiant ML570 G4, 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 website 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>.

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://h18000.www1.hp.com/products/servers/ProLiantml570/index.html>.

Rack Kit

HP ProLiant ML570 G4 rack models have universal sliding rails which provide tool-free support for square and round hole racks (including Compaq/HP 7000, 9000, 10000, HP/E series and H9 series) with an adjustment range from 23 3/4" to 36" depth. The snap-on cable management arm is now ambidextrous.

Telco Rack Support

Support for all 2-post Telco racks requires an additional option kit from Rack Solutions. The Rack Solutions brackets can be purchased at: <http://www.racksolutions.com/hp>.

Standard Features

HP Factory Express Capabilities

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>.

Enterprise Configurator

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

RoHS Compliant

For Resellers in countries/regions with RoHS legislation (see NOTE) (e.g. EU, China, etc.) The use of the noted material in a solution and subsequent resale of that solution will result in the solution no longer meeting the requirements of RoHS legislation.

NOTE: Directive 2002/95/EC restricts the use of lead, mercury, cadmium, hexavalent chromium, PBBs and PBDEs in electronic products. Countries/regions outside the EU, eg. China, are introducing similar legislation. References to 'RoHS legislation' means requirements of Directive 2002/95/EC or to similar substance restriction legislation enacted by any country/region outside the EU.

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.

NOTE: SATA drives have a 1 year warranty.

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

Standard Features

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.

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

<p>HP ProLiant ML570 G4 High Performance Models</p> <p>ML570R04 X7041, 4GB (2P) 403684-xx1</p> <p>ML570R04 X7030, 4GB (2P) 403690-xx1</p>	<p>Processor(s) One of the following depending on Model. Up to 4 supported.</p> <p>Cache Memory One of the following depending on Model.</p> <p>Memory</p> <p>Network Controller</p> <p>Storage Controller</p> <p>Hard Drive</p> <p>Internal Storage</p> <p>Optical Drive</p> <p>Diskette Drive</p> <p>Power Supplies</p> <p>Fans</p> <p>Form Factor</p>	<p>Dual-core 64-bit Intel Xeon 7041 (3.0GHz) Processors standard Dual-core 64-bit Intel Xeon 7030 (2.8GHz) Processors standard</p> <p>2x2MB Integrated Level 2 Cache 2x1MB Integrated Level 2 Cache</p> <p>(1) Memory Cartridges (up to 4 supported) 4 GB PC2-3200 Registered Memory (DDR2-400) (Standard) to 64GB (Maximum) (2x1 interleaved memory and Advanced Memory Protection Technology) NOTE: Four memory boards would be required to configure up to 64GB using 4GB DIMMs</p> <p>Dual Embedded NC371i Multi-function Gigabit NICs</p> <p>Smart Array P400 Controller with 512MB BBWC</p> <p>None ship standard</p> <p>1.29TB maximum (with optional hard drives)</p> <p>DVD/CD-RW combo drive</p> <p>Optional</p> <p>Two 910W/1300W Power Supplies standard (second power supply for redundancy)</p> <p>Three Hot-Plug Fans standard (three hot-plug redundant fans optional)</p> <p>Rack (6U)</p>
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<p>ML570T04 X7041, 2GB (1P) 403687-xx1</p> <p>ML570T04 X7030, 2GB (1P) 403691-xx1</p>	<p>Processor(s) One of the following depending on Model.</p> <p>Cache Memory One of the following depending on Model.</p> <p>Memory</p> <p>Network Controller</p> <p>Storage Controller</p> <p>Hard Drive</p> <p>Internal Storage</p> <p>Optical Drive</p> <p>Diskette Drive</p> <p>Power Supplies</p> <p>Fans</p> <p>Form Factor</p>	<p>Dual-core 64-bit Intel Xeon 7041 (3.0GHz) Processors standard Dual-core 64-bit Intel Xeon 7030 (2.8GHz) Processors standard</p> <p>2x2MB Integrated Level 2 Cache 2x1MB Integrated Level 2 Cache</p> <p>(1) Memory Cartridges (up to 4 supported) 2 GB PC2-3200 Registered Memory (DDR2-400) (Standard) to 64GB (Maximum) (2x1 interleaved memory and Advanced Memory Protection Technology) NOTE: Four memory boards would be required to configure up to 64GB using 4GB DIMMs</p> <p>Dual Embedded NC371i Multi-function Gigabit NICs</p> <p>Smart Array P400 Controller with 256MB cache</p> <p>None ship standard</p> <p>1.29TB maximum (with optional hard drives)</p> <p>DVD/CD-RW combo drive</p> <p>Optional</p> <p>One 910W/1300W Power Supply standard (second power supply for redundancy)</p> <p>Three Hot-Plug Fans standard (three hot-plug redundant fans optional)</p> <p>Tower</p>
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Models

Country Code Key

XX=00
XX=01
XX=03
XX=04
XX=05
XX=20
XX=29
XX=37
XX=42
XX=AA

TOWER MODELS

U.S. English
Australia
UK
Germany
France
Brazil
Japan
APD
Europe
PRC

RACK MODELS

U.S. English
N/A
N/A
N/A
N/A
N/A
Japan
APD
Europe
PRC

Configuration Information - Factory Integrated Models (North America only)

NOTE: For Configure to Order requirements within EMEA region, please consult local Sales Contact.

NOTE: HP does not allow factory integration of options into standard models listed above.

Configure-to-order servers must start with a CTO Chassis.

NOTE: This product offering does not support HP Factory Express Server Configuration Level 1.

Step 1: Base Configuration (choose one of the following configurable models)

Models	<p>HP ProLiant ML570 G4 Highly Serviceable Tower Chassis 410006-B21</p> <p>Factory Integrated Model ships with:</p> <ul style="list-style-type: none"> Dual Embedded NC371i Multi-function Gigabit NICs Ten Standard I/O Expansion slots Tower models ship with one Hot Plug Power Supply and one local power cord. Three Hot Plug Fans SFF SAS Drive Cage Integrated Lights-Out 2 (iLO2) Standard Management Keyboard and Mouse Tower (6U)
	<p>HP ProLiant ML570 G4 Highly Serviceable Rack Chassis 410007-B21</p> <p>Factory Integrated Model ships with:</p> <ul style="list-style-type: none"> Dual Embedded NC371i Multi-function Gigabit NICs Ten Standard I/O Expansion slots Rack models ship with one Hot Plug Power Supply, and local power cord(s) Three Hot Plug Fans SFF SAS Drive Cage Integrated Lights-Out 2 (iLO2) Standard Management Rack (6U)

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)

Processors	<p>HP X7041 DC 570 G4 Kit, Factory Integrated Only 404752-L21</p> <p>HP X7030 DC 570 G4 Kit, Factory Integrated Only 404753-L21</p> <p>NOTE: Up to 3 additional xxxxx-B21 processors for each HP ProLiant ML570 G4 server may be ordered. If selecting a Performance Pack option, a second processor is included and should not be ordered.</p>
Base Memory	<p>8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 348106-B21</p> <p>4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 375004-B21</p> <p>4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343057-B21</p> <p>2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343056-B21</p> <p>1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343055-B21</p>
Optical Drive	<p>Slimline CD-RW/DVD-ROM 24X Combo Drive Option Kit (Servers) 331903-B21</p> <p>Slimline DVD-ROM Drive (8X/24X) Option Kit (Servers) 264007-B21</p>

Configuration Information - Factory Integrated Models (North America only)

Step 3: Choose Additional Factory Integratable Options

High Performance Model Options The HP ProLiant ML570 G4 performance packs are necessary to configure a HP ProLiant ML570 G4 High Performance Model. HP ProLiant ML570 G4 High Performance models include the latest performance technologies and enterprise class availability features pre-installed for convenience and value. In addition to the standard features listed in Step 1, the High Performance Model includes the following:

- Second Intel Xeon Processor
- Redundant Power Supplies and Fans

ML570G4 X7041 Rack Optimized Pack (US)

405383-B21

ML570G4 X7030 Rack Optimized Pack (US)

405384-B21

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Options" section below.

Options

NOTE: Some options may not be factory integratable. Please contact your local sales representative for additional information.

ProLiant Essentials Value Pack Software	<p>ProLiant Essentials Integrated Lights-Out Advanced Pack ProLiant Essentials Integrated Lights-Out Advanced Pack, 1 server Featuring: sophisticated virtual administration features for ultimate control of servers in the data centers and remote sites. 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>	263825-B21
	<p>ProLiant Essentials Intelligent Networking Pack ProLiant Essentials Intelligent Networking Pack - Windows Edition, Single Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation. NOTE: For additional ProLiant Intelligent Networking Pack License Kits please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12062_div/12062_div.HTML</p>	372906-B21
	<p>ProLiant Essentials Intelligent Networking Pack - Linux Edition, Single Server License 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>	397004-B21
	<p>ProLiant Essentials Performance Management Pack ProLiant Essentials Performance Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key, HP Management CD and documentation. NOTE: The most recent version of the software can always be downloaded at http://www.hp.com/products/pmp. 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>	306696-B21
	<p>ProLiant Essentials Rapid Deployment Pack Rapid Deployment Pack, Single-Server License NOTE: This license allows 1 server to be deployed and managed via RDP.</p>	267196-B21
	<p>Rapid Deployment Pack, Single-Server License (Japan) NOTE: This license allows 1 server to be deployed and managed via RDP. 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</p>	267196-291
	<p>ProLiant Essentials Workload Management Pack ProLiant Essentials Workload Management Pack, Single Server License 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</p>	303284-B21
	<p>ProLiant Essentials Virtualization Management Software ProLiant Essentials Virtual Machine Management Pack, Single-Server License NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.</p>	372214-B21

Options

ProLiant Essentials Server Migration Pack, Single-Migration License	375345-B21
<p>NOTE: Contains one license, enabling 1 server migration, with a unique license activation key and documentation.</p> <p>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.</p> <p>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</p>	
ProLiant Essentials Vulnerability and Patch Management Pack	
ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License	371645-B21
<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 Vulnerability and Patch Management Pack License Kits, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12111_div/12111_div.HTML</p> <p>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.</p> <p>NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials.</p>	

Processor	Dual-Core 64-bit Intel Xeon 7041 (3.00GHz, 800MHz FSB) Processor Option Kit	404752-B21
	<p>NOTE: This processor option kit (PN 404752-B21) supports the HP ProLiant ML570 G4 and the HP ProLiant DL580 G4.</p>	
	Dual-Core 64-bit Intel Xeon 7030 (2.80GHz, 800MHz FSB) Processor Option Kit	404753-B21
	<p>NOTE: This processor option kit (PN 404753-B21) supports the HP ProLiant ML570 G4 and the HP ProLiant DL580 G4.</p>	

Memory (DIMMs)	8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	348106-B21
	4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	375004-B21
	4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	343057-B21
	2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	343056-B21
	1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit	343055-B21
	ML570 G4 Hot-plug Memory Expansion Board	403702-B21

Optical Drives	Slimline DVD-ROM Drive (8X/24X) Option Kit (Servers)	264007-B21
	<p>NOTE: This drive is supported in the removable media bay.</p>	
	Slimline CD-RW/DVD-ROM Combo Drive Option Kit	331903-B21
	<p>NOTE: This drive is supported in the DVD-ROM bay and floppy bay</p>	
	HP DVD+R/RW 8X Slim	383975-B21

Diskette Drive	Slimline Floppy Diskette Drive Option Kit	390164-B21
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Options

Hard Drives	Serial Attached SCSI (SAS) SFF Hot Plug	
	HP 36GB 3G SAS 10K SFF HDD	375859-B21
	HP 72GB 3G SAS 10K SFF HDD	375861-B21
	<p>NOTE: Please see the SAS 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/12244_div12244_div.HTML (Worldwide)</p>	
SATA Hot Plug	HP 60GB 1.5G SATA 5.4K SFF HDD	379306-B21
	<p>NOTE: SATA drives have a 1 year warranty. Please see the SATA 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/11940_div11940_div.HTML (Worldwide)</p>	
PCI Option	HP x4-x8 PCI-E Bus Expander Option Kit	403724-B21
	<p>NOTE: When installed into a x4 PCI Express expansion slot, the optional x4-x8 PCI-Express Bus Expander converts an adjacent x4 PCI Express expansion slot into a x8 PCI Express expansion slot. The HP ProLiant ML570 G4 Server can support up to three x4-x8 PCI Express bus expander cards. The card can only be installed in expansion slots 6, 8, and 10.</p>	
Storage Controllers	SAS Controllers	
	HP Smart Array P400/256MB Controller	405132-B21
	<p>NOTE: The Smart Array P400 Controller supports internal Serial Attached SCSI and Serial ATA drives. This controller model ships standard on 1P Models.</p>	
	HP Smart Array P400 Controller/512MB and BBWC	411064-B21
	<p>NOTE: The Smart Array P400 Controller supports internal Serial Attached SCSI and Serial ATA drives. This controller model ships standard on 2P Models.</p>	
	512MB DDR BBWC Upgrade	405148-B21
	<p>NOTE: For Smart Array P400 Controller only.</p>	
	Battery-backed write cache upgrade	383280-B21
	<p>NOTE: For Smart Array P400 Controller only.</p>	
	Smart Array P600 Controller	337972-B21
512MB DDR BBWC Upgrade	372538-B21	
<p>NOTE: For Smart Array P600 Controller only.</p>		
<p>NOTE: Please see the following Controller QuickSpecs for additional information including Technical Specifications: http://h18000.www1.hp.com/products/quickspecs/12400_div12400_div.HTML (Smart Array P400) http://h18000.www1.hp.com/products/quickspecs/12247_div12247_div.HTML (Smart P600 Controller)</p>		
SCSI Controllers for External Drive/Storage Support		
Smart Array 6402/128 Controller	273915-B21	
Smart Array 6404/256 Controller	273914-B21	
Ultra320 Expansion Module for SA-6402	273911-B21	

Options

Smart Array 641 Controller	291966-B21
Smart Array 642 Controller	291967-B21
128-MB BBWC (Battery-Backed Write Cache) Enabler	351580-B21
NOTE: Supports the Smart Array 641 Controller and Smart Array 642 Controller.	
64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
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/11587_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)	

Communications

HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
HP NC320T PCI Express 1000T Gigabit Server Adapter	367047-B21
HP NC340T PCI-X 4-port Gigabit Server Adapter	391661-B21
HP NC370F PCI-X Multifunction 1000SX Gigabit Server Adapter	374193-B22
HP NC370T PCI-X Multifunction 1000T Gigabit Server Adapter	374191-B22
HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
HP NC1020 PCI 1000T Gigabit Server Adapter	353377-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, except the NC1020, on the option list can be used for redundancy with the embedded NC371i NIC. When teaming with other NICs or with the embedded NIC, the lack of Jumbo Frames and LSO features on the NC1020 will cause high end NICs to have those features disabled. (e.g. incompatibility issues with the other option NICs for that platform).	

Redundant Options

Hot-plug Redundant Fan Kit	348108-B21
NOTE: Includes three fans. Included in 2P models.	
910W (low line), 1300W (high line) Hot Plug Redundant Power Supply US	348114-001
910W (low line), 1300W (high line) Hot Plug Redundant Power Supply AUST	348114-011
910W (low line), 1300W (high line) Hot Plug Redundant Power Supply EURO	348114-021
910W (low line), 1300W (high line) Hot Plug Redundant Power Supply UK	348114-031
910W (low line), 1300W (high line) Hot Plug Redundant Power Supply JPN2	348114-291
910W (low line), 1300W (high line) Hot Plug Redundant Power Supply	348114-B21
NOTE: Includes C14 to C19 IEC cable.	

Options

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 (APD, Japan)	227251-371

Tape Drives

NOTE: For complete listing of tape drive offerings see

<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

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

NOTE: In order to install certain tape drives internally, you may need to remove the rails that come standard on the drives and then re-insert the screws in the mounting holes. Mounting screws are shipped standard with server.

USB Tape Drives

HP StorageWorks DAT 72 USB Internal Tape Drive (Carbonite) DW026A

Ultrium Tape Drives - Internal, External, and Rack-Mount and Array

HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite) DW064A

HP StorageWorks Ultrium 448 Internal Tape Drive (Carbonite) DW016A

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)

http://h18006.www1.hp.com/products/quickspecs/12128_div/12128_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

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)

Options

Tape Autoloaders	HP StorageWorks Tape 1/8 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 1/8 tape autoloader in a standard 19-inch rack.	
	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	

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	AD606B
	HP StorageWorks MSL6030 1 Ultrium 960 Dr FC Library	AD608B
	HP StorageWorks MSL6030 2 Ultrium 960 Dr LVDS Library	AD607B
	HP StorageWorks MSL6030 2 Ultrium 960 Dr FC Library	AD609B
	Ultrium 460 technology	
	HP StorageWorks MSL6030 1 Ultrium 460 Dr LVDS Library	AD598B
	HP StorageWorks MSL6030 1 Ultrium 460 Dr FC Library	AD600B
	HP StorageWorks MSL6030 2 Ultrium 460 Dr LVDS Library	AD599B
	HP StorageWorks MSL6030 2 Ultrium 460 Dr FC Library	AD601B
	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 .	

HP Data Protector Express Software	HP DP Express Backup Server Upgrade for ProLiant Software	BB117AP
	HP DP Express Package for Microsoft Small Business Server	BB118AA
	NOTE: To obtain a free licensed copy of HP Data Protector Express for ProLiant edition software, please visit the "Protect Your Data" link accessible from your ProLiant server's System Management Homepage (SMH) software (SmartStart 7.5 or later).	
	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)	

Options

Cluster Options	ProLiant Cluster Starter Kit	364023-B21
	<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>	
	HP HA/F200 for Entry SAN Cluster	364026-B22
	HP HA/F200 for Entry SAN Cluster (Japan)	364026-292
	<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>	
	ProLiant Cluster HA/F500 for the Enterprise SAN	364024-B21
	<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>	
	HP Serviceguard for Linux ProLiant Cluster A.11.16 for SUSE SLES 9 and Red Hat EL & 4 (2 node license cluster kit)	305199-B26
	HP Serviceguard for Linux A.11.16 for SUSE SLES9 and Red Hat EL 3 & 4 (single license version)	307754-B26
	HP Serviceguard for Linux and Red Hat Global File System - 1 year subscription	T2798AA#001
	HP Serviceguard for Linux and Red Hat Global File System - 3 years subscription	T2798AA#003
	<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>	

StorageWorks Options

NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see:
<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

StorageWorks 2 Gb, 64-bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter for Windows, Linux and Netware	281541-B21
StorageWorks 2 Gb, Dual Port, 64-Bit/133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows, Linux and Netware	321835-B21
HP StorageWorks 2 Gb, single channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows and Linux	A7388A
HP StorageWorks 2 Gb, dual channel, 133 MHz PCI-X-to-Fibre Channel Host Bus Adapter Windows and Linux	A7387A
HP StorageWorks FC2142SR 4Gb PCI-E HBA for Windows and Linux	A8002A
HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-E HBA for Windows and Linux	A8003A
HP StorageWorks FC1142SR 4Gb PCI-E HBA for Windows and Linux	AE311A
HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-E HBA for Windows and Linux	AE312A
HP StorageWorks FC2143 4Gb PCI-X 2.0 HBA for Windows and Linux	AD167A
HP StorageWorks FC2243 4Gb PCI-X 2.0 DC HBA for Windows and Linux	AD168A
HP StorageWorks Q200 FC HBA	A7523A

Options

HP StorageWorks Modular Smart Array 20	HP StorageWorks Modular Smart Array 20 NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies.	335921-B21
	HP StorageWorks Modular Smart Array 20 Starter Kit NOTE: Rack-mountable 12 (SATA) drive enclosure with U320 Host connectivity, redundant power supplies. Includes Smart Array 6402/128 Controller. NOTE: The Modular Smart Array Enclosure 20 Family supports the SATA 1.5Gb/s 3.5" Hot Plug Hard Drives.	366172-B21
HP StorageWorks Modular Smart Array 30	HP StorageWorks Modular Smart Array 30 SB NOTE: Rack-mountable 14 drive enclosure with single bus, redundant power supplies.	302969-B21
	HP StorageWorks Modular Smart Array 30 DB NOTE: Rack-mountable 14 drive enclosure with dual bus, redundant power supplies. NOTE: The Modular Smart Array Enclosure 30 Family supports the Wide Ultra3, Ultra320 Hot Plug Hard Drives.	302970-B21
HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 50 Enclosure NOTE: Please see the Modular Smart Array 50 QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.HTML (Worldwide)	364430-B21
HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000 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)	201723-B22
HP StorageWorks Modular Smart Array 1500	Modular Smart Array 1500 Controller Shelf NOTE: Please see the StorageWorks Modular SAN Array 1500 QuickSpecs for additional options and configuration information at: http://www.hp.com/go/MSA1500cs	AA986A

Options

HP Uninterruptible Power Systems - Tower	HP UPS Model T1000 XR (1000VA, 700 Watt), Low Voltage (NA)	204155-001
	HP UPS Model T1000 XR (1000VA, 700 Watt), High Voltage (Int'l)	204155-B31
	HP UPS Model T1000 XR (1000VA, 700 Watt), Low Voltage (Japan)	312803-291
	HP UPS Model T1500 XR (1440VA, 1050 Watt), Low Voltage (NA)	204155-002
	HP UPS Model T1500 XR (1500VA, 1050 Watt), High Voltage (Int'l)	204155-B32
	HP UPS Model T1500 XR (1500VA, 1050 Watt), Low Voltage (Japan)	204155-291
	HP UPS Model T2200 XR (1920VA, 1600 Watt), Low Voltage (NA)	204451-001
	HP UPS Model T2200 XR (2080VA, 1600 Watt), High Voltage (NA)	204451-002
	HP UPS Model T2200 XR (2200VA, 1600 Watt), Low Voltage (WW)	204451-B31
HP UPS Model T2200 XR (2200VA, 1600 Watt), Low Voltage (Japan)	204451-291	

Uninterruptible Power Systems – Rack	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage (NA)	204404-001
	HP UPS R1500 XR (1500VA, 1340 Watt), High Voltage (Int'l)	204404-B31
	HP UPS R1500 XR (1500VA, 1340 Watt), Low Voltage (Japan)	204404-291
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage (NA)	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (NA)	192186-002
	HP UPS R3000 XR (2400VA, 2250 Watt), Low Voltage (Japan)	192186-291
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Japan)	192186-292
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (Int'l - detachable cord)	192186-B31
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A IEC309 Plug)	192186-B32
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A CEE 7/7 SCHUKO Plug)	192186-B33
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage (16A BS-546 Plug)	192186-AR1
	HP R3000 VA UPS, 2U, DTC, INTL	AF414A
	NOTE: Replaces non-RoHs compliant part numbers 192186-B31, 192186-B32, 192186-B33, 192186-AR1.	
	HP R3000 VA UPS, 2U, L5-30, NA	AF422A
	NOTE: Replaces non-RoHs compliant part number 192186-001.	
	HP R3000 VA UPS, 2U, L6-20, NA	AF423A
	NOTE: Replaces non-RoHs compliant part number 192186-002.	
	HP R3000 VA UPS, 2U, L6-20, JPN	AF424A
	NOTE: Replaces non-RoHs compliant part number 192186-292.	
	HP R3000 VA UPS, 2U, L5-30, JPN	AF425A
NOTE: Replaces non-RoHs compliant part number 192186-291.		
HP UPS R5500 XR, (5000VA, 4500 Watt), High Voltage (NA/Jpn)	326529-D71	
HP UPS R5500 XR, (6000VA, 5400 Watt), High Voltage (Int'l)	326529-B31	
HP R5500 VA UPS, INTL	AF416A	
NOTE: Replaces non-RoHs compliant part number 326529-B31.		
HP R5500 VA UPS, NA/JPN	AF426A	
NOTE: Replaces non-RoHs compliant part number 326529-D71.		
HP UPS R12000 XR, N+x (12KVA, 12KW) High Voltage (WW)	207552-B22	
NOTE: UPS R6000 has a hardwired input; and the UPS R12000 XR has a hardwired input and output connection.		

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 PDUs 1U/0U (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)		

USB Options	USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B

Options

Tower/Rack Conversion Kits	ProLiant Tower to Rack Conversion Kit	407318-B21
	NOTE: This Tower to Rack Conversion Kit (PN 407318-B21) supports the HP ProLiant ML570 G4.	
	ProLiant Rack to Tower Conversion Kit	348113-B21
	NOTE: This Rack to Tower Conversion Kit (PN 348113-B21) supports the HP ProLiant ML570 G4.	
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HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack-Unassembled	358254-B21
	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) NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .	
<hr/>		
HP Rack 10000 G2 Series (Carbon/Graphite Metallic)	10642 G2 (42U) Rack Cabinet - Pallet	AF001A
	10642 G2 (42U) Rack Cabinet - Shock Pallet	AF002A
	10642 G2 (42U) Rack Cabinet - Crated	AF003A
	10642 G2 (42U) Rack Cabinet, with Extension - Shock Pallet	AF004A
	10642 G2 (42U) Rack Cabinet, without door - Shock Pallet	AF005A
	10642 G2 (42U) Rack Cabinet - with Extension, without door - Shock Pallet	AF006A
	10636 G2 (36U) Rack Cabinet - Pallet	AF011A
	10636 G2 (36U) Rack Cabinet - Shock Pallet	AF012A
	10636 G2 (36U) Rack Cabinet - Crated	AF013A
	10636 G2 (36U) Rack Cabinet, with Extension - Shock Pallet	AF014A
	10636 G2 (36U) Rack Cabinet, without door - Shock Pallet	AF015A
	10636 G2 (36U) Rack Cabinet, with Extension, without door - Shock Pallet	AF016A
	NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.	
	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) NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower .	
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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: Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:

http://h18000.www1.hp.com/products/quickspecs/10995_div/10995_div.HTML
(Worldwide)

NOTE: For additional information regarding Rack Cabinets, 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 .	
	TFT7600 Rackmount Keyboard Monitor US	AG052A
	TFT7600 Rackmount Keyboard Monitor GR	AG053A
	TFT7600 Rackmount Keyboard Monitor FR	AG054A
	TFT7600 Rackmount Keyboard Monitor IT	AG055A
	TFT7600 Rackmount Keyboard Monitor SP	AG056A
	TFT7600 Rackmount Keyboard Monitor DEN	AG057A
	TFT7600 Rackmount Keyboard Monitor NOR	AG058A
	TFT7600 Rackmount Keyboard Monitor SE/FI	AG059A
	TFT7600 Rackmount Keyboard Monitor SWI	AG060A
	TFT7600 Rackmount Keyboard Monitor PORT	AG061A
	TFT7600 Rackmount Keyboard Monitor BEL	AG062A
	TFT7600 Rackmount Keyboard Monitor JPN2	AG063A
	TFT7600 Rackmount Keyboard Monitor RUS	AG064A
TFT7600 Rackmount Keyboard Monitor INTL	AG065A	

Options

TFT7600 Rackmount Keyboard Monitor UK	AG066A
1U Rackmount Keyboard with USB, US	AG072A
1U Rackmount Keyboard with USB, UK	AG073A
1U Rackmount Keyboard with USB, GR	AG074A
1U Rackmount Keyboard with USB, FR	AG075A
1U Rackmount Keyboard with USB, ITL	AG076A
1U Rackmount Keyboard with USB, SP	AG077A
1U Rackmount Keyboard with USB, DEN	AG078A
1U Rackmount Keyboard with USB, NOR	AG079A
1U Rackmount Keyboard with USB, SE/FI	AG080A
1U Rackmount Keyboard with USB, SWI	AG081A
1U Rackmount Keyboard with USB, PORT	AG082A
1U Rackmount Keyboard with USB, BEL	AG083A
1U Rackmount Keyboard with USB, JPN2	AG084A
1U Rackmount Keyboard with USB, RUS	AG085A
1U Rackmount Keyboard with USB, INTL	AG086A

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

HP KVM Switch Options	2x1x16 IP Console Switch with Virtual Media	AF601A
	4x1x16 IP Console Switch with Virtual Media	AF602A
	2x16 Server Console Switch with Virtual Media	AF600A
	PS/2 Virtual Media Interface Adapter, 1 pack	AF604A
	NOTE: Requires PS/2 and one USB port on server.	
	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
	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 .	
	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: 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

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>.

Service and Support Offerings (HP Care Pack Services)	Hardware Services On-site Service	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4591E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4592E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4593E
	Installation & Start-up Services	
	Hardware Installation, Electronic	U4601E
	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	U4602E
	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	U4603E
	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	U4604E
	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	U6314E
	Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	U9237E

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

Memory

HP ProLiant ML570 G4 1P Tower Models

Standard Memory

2 GB PC2-3200 Registered Memory (DDR2-400) DIMM installed (2 x 1 GB SDRAM DIMM)

Standard Memory Plus Optional Memory

Up to 58 GB of memory is available with the optional installation of 4 GB DIMMs.

Standard Memory Replaced with Optional Memory

Up to 64 GB of memory is available with the removal of the standard 2048 MB of memory and the optional installation of 4 GB DIMMs.

- Loads:
 - Single rank (SR) DIMM => 1 load
 - Dual rank (DR) DIMM => 2 loads
- DIMMs must be installed in pairs on board.
 - Each DIMM pair must be identical, e.g. both SR or both DR, and same capacity, technology and density.
- Each HP ProLiant ML570 G4 memory board supports 8 loads, thus valid maximum DIMM configurations per memory board for the HP ProLiant ML570 G4 are:
 - 6 SR DIMMs = 6 loads, or
 - 4 DR DIMMs = 8 loads, or
 - 2 DR DIMMs + 4 SR DIMMs = 8 loads
- Advance Memory Protection support
 - Online Spare is supported with 1, 2, 3 or 4 boards
 - Each board can failover to its Online Spare Bank independent of the other memory boards.
 - The minimum valid Online Spare configuration for a memory board requires at least one bank of dual-rank DIMMs or two banks of single-rank DIMMs.
 - HP Recommends (for maximum memory usage efficiency):
 - If only single -rank DIMMs are used on a memory board, all DIMMs should be of the same size on that memory board.
 - If only dual-rank DIMMs are used on a memory board, all DIMMs should be of the same size on that memory board.
 - If a mixture of single- and dual-rank DIMMs are used on a memory board, the dual-rank DIMMs should be two times (2x) the size of any single-rank DIMM
 - Hot-Plug Mirrored Memory is supported with 2 or 4 boards
 - Memory boards within a mirrored pair must have the same amount of total memory. However, each board of the mirrored pair may have different DIMM configurations as long as they have equal total size.
 - The amount of memory between mirrored pairs can be different in quadboard Mirrored Memory mode.
 - Hot-Plug RAID Memory is only supported with 4 boards
 - All four memory boards must have the same amount of total memory. However, each board may have different DIMM configurations as long as they have equal total size

NOTE: This chart does not represent all possible memory configurations.

NOTE: Four memory boards would be required to configure up to 58GB or maximum memory using 4GB DIMMs.

Memory

Memory		Slot					
		1	2	3	4	5	6
Standard	1 GB	1 GB	1 GB	Empty	Empty	Empty	Empty
Optional	58 GB	1 GB	1 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Memory		Slot					
		7	8	9	10	11	12
Standard	1 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	58 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Memory		Slot					
		13	14	15	16	17	18
Standard	1 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	58 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Memory		Slot					
		19	20	21	22	23	24
Standard	1 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	58 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty

Following are memory options available from HP:

- 8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 348106-B21
- 4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 375004-B21
- 4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343057-B21
- 2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343056-B21
- 1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343055-B21
- ML570G4 Hot-plug Memory Expansion Board 348107-B21

NOTE: memory is interchangeable between the HP ProLiant ML570 G3 and HP ProLiant ML570 G4, but the memory boards are not.

HP ProLiant ML570 G4 2P High Performance Models

Standard Memory

4 GB PC2-3200 Registered Memory (DDR2-400) installed (4 x 1 GB SDRAM DIMMs)

Standard Memory Plus Optional Memory

Up to 52 GB of memory is available with the optional installation of 4 GB DIMMs.

Standard Memory Replaced with Optional Memory

Up to 64 GB of memory is available with the removal of the standard 4GB of memory and the optional installation of 4 GB DIMMs.

NOTE: This chart does not represent all possible memory configurations.

NOTE: Four memory boards would be required to configure up to 52 GB or maximum memory using 4 GB DIMMs.

Memory

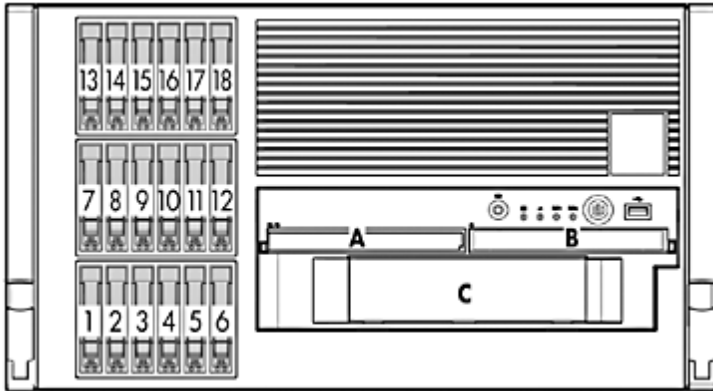
Memory		Slot					
		1	2	3	4	5	6
Standard	2 GB	1 GB	1 GB	1 GB	1 GB	Empty	Empty
Optional	52 GB	1 GB	1 GB	1 GB	1 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Memory		Slot					
		7	8	9	10	11	12
Standard	2 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	52 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Memory		Slot					
		13	14	15	16	17	18
Standard	2 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	52 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Memory		Slot					
		19	20	21	22	23	24
Standard	2 GB	Empty	Empty	Empty	Empty	Empty	Empty
Optional	52 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty
Maximum	64 GB	4 GB	4 GB	4 GB	4 GB	Empty	Empty

Following are memory options available from HP:

- 8 GB (2 x 4 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 348106-B21
- 4 GB (2 x 2 GB 2RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 375004-B21
- 4 GB (2 x 2 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343057-B21
- 2 GB (2 x 1 GB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343056-B21
- 1 GB (2 x 512 MB 1RANK) PC2-3200 Registered Memory (DDR2-400) Option Kit 343055-B21
- ML570G4 Hot-plug Memory Expansion Board 348107-B21

NOTE: memory is interchangeable between the HP ProLiant ML570 G3 and HP ProLiant ML570 G4, but the memory boards are not.

Storage



- 1-18 Eighteen SFF SAS Drive Bays
- A 1.44-MB Slimline Diskette Drive (optional)
- B Slimline DVD/CD-RW
- C One available removable media bay for storage. A half-height tape drive, or a USB tape drive may be installed in the removable media bay.

Drive Support

Hard Drives

SFF SATA Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
HP 6GB 1.5G SATA 7.2K	Up to 18	1-18	Smart Array P400 Controller Smart Array P600 Controller

SFF SAS Hot Pluggable Drives

	Quantity Supported	Position Supported	Controller
HP 72GB 3G SAS 10K	Up to 18	1-18	Smart Array P400 Controller Smart Array P600 Controller
HP 36GB 3G SAS 10K			

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 30 Family	Up to 28	External	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 50 Enclosure	Up to 2	External	Smart Array P600 Controller

Storage

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 - (ML570 SFF SAS Drive Cage, 8 port SAS controller in 4 slots & MSA50 enclosures)

Internal	1.296TB (18 x 72GB SFF SAS Drives)
External	5.76TB hot plug SFF SAS storage (4 x (20 x 72GB SFF SAS Drives))
Total	7.056TB

Tape Drives, Tape Autoloaders, & Tape Libraries

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 and 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>

	Quantity Supported	Position Supported	Controller
HP StorageWorks Tape Drives, Internal DAT 24 USB DAT 40 USB DAT 72 USB	1	C	USB 2.0 Port
HP StorageWorks Tape Drives, External DAT 24 USB DAT 40 USB DAT 72 USB	1	External	USB 2.0 Port

Storage

HP StorageWorks Tape Drives, Internal Ultrium 232 Ultrium 448 DAT 40 DAT 72 DLT VS80 DLT VS160	1	C	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
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/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Tape Drives, External Ultrium 960 SDLT 600	1	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
HP StorageWorks Autoloaders, External 1/8 Tape Autoloader	1 per SCSI channel	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2
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/133-MHz Single Channel Ultra320 SCSI HBA G2
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.

Power Specifications

Part Number	337867-001
Spare Kit	364360-001
Operational Input Voltage Range (Vrms)	90 to 264
Frequency Range (Nominal) (Hz)	47 to 63 (50/60)

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	910	910	1300	1300	1300	1300
Nominal Input Current (A rms)	11.9	10.2	7.7	7.3	6.9	6.6
Max Rated Input Wattage Rating (Watts)	1163	1148	1566	1566	1548	1548
Max. Rated VA (Volt-Amp)	1186	1172	1598	1598	1579	1579
Efficiency (%)	80	81	83	83	84	84
Power Factor	0.98	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	0.43	0.50	0.90	0.96	1.00	1.04
Maximum Inrush Current (A peak)	100	100	100	100	100	100
Maximum Inrush Current duration (mS)	10	10	10	10	10	10

System Specifications

To determine power specifications for various system configurations, please use the online HP Power Calculator Tool referenced below.

Power cord requirements	Tower model comes with local power cord	Option no. See chart below Spare no. See chart below
	Rack models come with PDU jumper cord and/or local power cord.	Option no. See chart below Spare no. See chart below

NOTES:

* - To review typical system power ratings use the Active Answers Power Calculator which is available via the online tool located at URL: <http://h30099.www3.hp.com/configurator/calc/power%20calculator%20catalog.xls>

- Click on the Power Calculator for the server of interest. Example: ML570 G4

- There are certain dual-core, lowline, max configurations that are not supported. All highline configurations are supported. Consult the Power Calculator to determine if your lowline configuration is supported.

Power Specifications

Standard Tower Model Power Cords	Description	
Asia Pacific	CEE 7-VII to IEC320-C19	
	BS1363 to IEC320-C19	
Australia	AS/NZS 3112 to IEC320-C19	
Brazil	Nema 5-15P to IEC320-C19	
Europe	CEE 7-VII to IEC320-C19	
France	CEE 7-VII to IEC320-C19	
Germany	CEE 7-VII to IEC320-C19	
Japan	JIS C8303 to IEC320-C19	
UK	BS1363 to IEC320-C19	
USA	Nema 5-15P to IEC320-C19	
PRC	GB1002 to IEC320-C19	
	CNS 690 to IEC320-C19	
	BS1363 to IEC320-C19	
Standard Rack Model Power Cords	Description	
Asia Pacific	IEC320-C14 to IEC320-C19	
Europe	IEC320-C14 to IEC320-C19	
Japan	JIS C8303 to IEC320-C19	
	IEC320-C14 to IEC320-C19	
PRC	IEC320-C14 to IEC320-C19	
USA	IEC320-C14 to IEC320-C19	
Optional Country Power Cords and Jumper Cords	Description	Option Power Cord Part Number
Australia/New Zealand	AS/NZS 3112 to IEC320-C19	305340-011
Denmark/Switzerland	IEC320-C19, Industrial	305340-081
Europe	CEE 7-VII to IEC320-C19	305340-021
Italy	IEC320-C19, Italy	305340-061
South Africa/India	IEC320-C19, SA	305340-AR1
UK	BS1363 to IEC320-C19	305340-031
US	Nema 5-15P to IEC320-C19	235603-001
US	Nema 6-20P to IEC320-C19	235604-001
US	IEC320-C19, 20A, 250V, US	340653-001
WW	IEC320-C14 to IEC320-C19 Jumper (16A, IEC, 6ft/2.0m)	313227-B21
WW	IEC320-C14 to IEC320-C19 Jumper (16A, IEC, 8ft/2.5m)	291034-B21
WW	IEC320-C14 to IEC320-C19 Jumper (16A, IEC, 10ft/3.0m)	310927-B21
WW	IEC320-C14 to IEC320-C19 Jumper (16A, IEC, 12ft/3.6m)	313228-B21
WW	IEC320-C19 to IEC320-C20 Jumper (16A, IEC, 8ft/2.5m)	295633-B22

Technical Specifications

System Unit	Tower Dimensions (HxWxD) (with feet/bezel)	20 x 11.1 x 28.8 in (50.8 x 28.2 x 73.2 cm)		
	Rack Dimensions (HxWxD) (with bezel)	11.1 x 19.0 x 28.0 in (28.2 x 48.3 x 71.1 cm)		
	Maximum Weight	137 lb (62.14 kg)		
	Input Requirements (per power supply)	Range Input Voltage	100 to 127 VAC/200 to 240 VAC	
		Rated Input Frequency	47 to 63 Hz	
		Input Power	1163W @ 110 VAC; 1598W @ 200 VAC	
		Rated Input Current	12A / 8A	
	BTU Rating	BTU/hr (max)	5457 BTU/hr	
	Power Supply Output Power (per power supply)	Rated Steady-State Power	910W/1300W	
		Maximum Peak Power	960W/1420W for 10 sec max	
	Temperature Range	Operating	50° to 95° F (10° to 35° C)	
		Non-operating	-20° to 140° F (-29° to 60° C)	
		Shipping	-22° to 122° F (-30° to 50° C)	
	Relative Humidity (non-condensing)	Operating	10% to 70%	
		Non-operating	5% to 95%	
Maximum Wet Bulb Temperature	101.7° F (38.7° C)			
Acoustic Noise	Listed are the declared A-WEIGHTED SOUND POWER (LWAd) and average bystander position A-WEIGHTED SOUND PRESSURE LEVEL (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74, 7th edition) and declared in accordance with ISO 9296 (ECMA 109).			

Idle and Operating (Maximum configuration): LWAd = 7.5 Bels, Average Bystander LpAm = 56 dBA (Note 1)

NOTE: The values listed apply to both the tower and 6U rack configurations. Maximum configuration tested included four Xeon MP processors, ten SCSI hard drives, two power supplies, and six inlet fans.

Technical Specifications

Embedded Dual NC371i Multifunction Gigabit NICs	Network Interface	10Base-T/100Base-TX/1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
		IEEE 802.3u 100Base-TX	
	Data Transfer Method	PCI Express, four lanes (x4)	
	Network Transfer Rate	10Base-T (Half-Duplex)	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-TX (Half and Full-Duplex)	2000 Mb/s
Connector	Two RJ-45		
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	100Base-TX	Category 5 or higher UTP; up to 328 ft (100 m)	
	1000BaseTX	Category 5 or higher UTP; up to 328 ft (100 m)	

Smart Array P400 Controller	Disk Drive and Enclosure Interface	3G SAS (Serial Attached SCSI) 1.5G SATA (Serial Advanced Technology Attachment)
	SAS Connectors	2 internal (SFF8484) x4 wide port connectors
	Cache Memory Speed	DDR2-533MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth.
	Server Interface	x8 2.5G PCIe provides 2GB/s maximum bandwidth.
	SAS Speed	x8 3G SAS provides 2.4GB/s maximum bandwidth.
	Cache Memory	40-bit 256MB cache (72-bit 512MB module upgrades available); ECC protection, battery-backed, and transportable
	Logical Drives Supported	Up to 32 logical drives
	Maximum Logical Drive Capacity	3TB (6 x 500GB)
	Host Memory Addressing	64-bit, supporting greater than 4GB server memory space
	RAID Support	RAID 6 with ADG (Advanced Data Guarding) requires Battery Backed Write Cache Upgrade RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 0 (Striping)

Technical Specifications

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