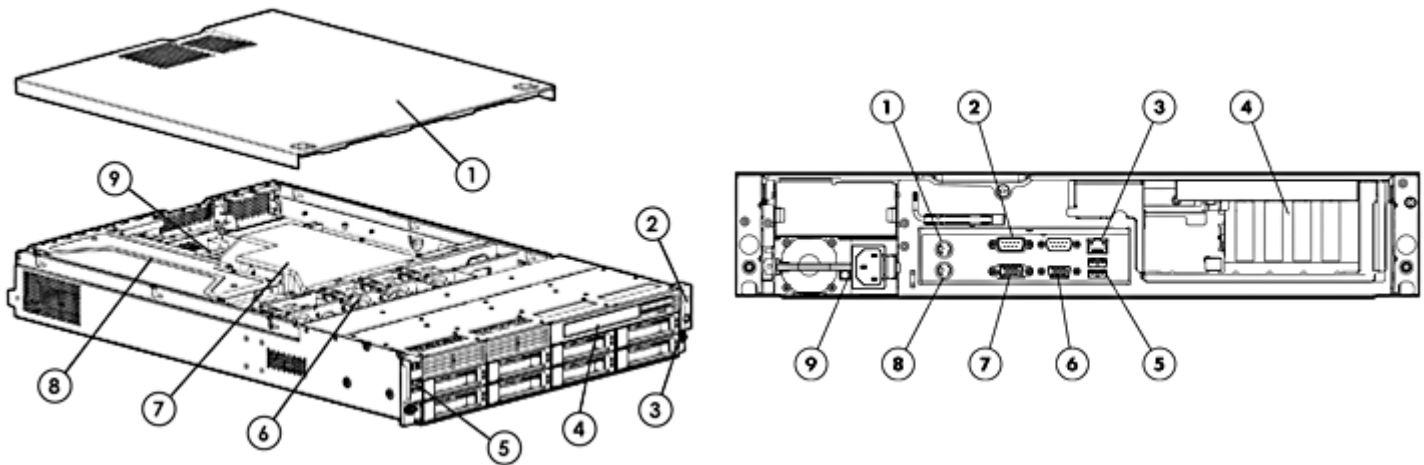


Overview



Front View:

1. Access panel
2. Front LED Indicators
3. Power on/off
4. Optional DVD-RW or DVD-ROM drive
5. Front USB Ports (2)
6. Non Hot plug Non redundant fans (4 fans)
7. Air Baffle
8. PCI Cage
9. System Board

Rear View:

1. Mouse
2. Serial Port
3. GB Ethernet Port
4. PCI Slot s
5. Rear Dual USB Ports
6. Single USB Port
7. VGA Video Connector
8. Keyboard
9. Power Supply

What's New

- Support for 72 GB, 146 GB and 300 GB Serial-Attached SCSI (SAS) DP Hot Plug Hard Drives

At A Glance

NOTE: This server is currently supported in APJ only.

Processors:

- Supports up to two Quad-Core and Dual-Core Intel® Xeon® processors: 5300 and 5100 sequence
- Quad-Core Intel® Xeon® processors 5300 sequence with 8MB Level 2 cache
- Dual-core Intel® Xeon® processor 5100 sequence with 4MB Level 2 cache
- Intel® 5000V Chipset

Memory:

- Supports up to 16 GB PC2-5300 Fully Buffered DIMMs (DDR2-667) with ECC

Internal Drive Support:

- Supports up to eight:
 - Hot Plug Serial ATA (SATA) 3.5"hard drives; or
 - Hot Plug Serial Attached SCSI (SAS/Serial ATA (SATA) 3.5"hard drives
- Internal storage capacity of up to 6TB (8 x 750GB Hot Plug 3.5" SATA hard drives), 2.4TB (8 x 300GB Hot Plug 3.5" SAS hard drives)

Network Controller:



Overview

- One integrated NC7781 PCI-X Gigabit NIC (embedded) (Wake on LAN and PXE capable)
- **Storage Controllers:**
 - HP Embedded SATA RAID Controller on Non-Hot Plug SATA Models
 - HP 8 Internal Port SAS HBA with RAID 0,1 on Hot Plug SAS/SATA Models
 - HP Smart Array E200 Controller
 - HP Smart Array P800 Controller
 - HP SC11Xe Host Bus Adapter
 - HP SC44Ge Host Bus Adapter
- **Expansion Slots:**
 - One available Low Profile x4PCI-Express slot using a Low profile Riser.
 - Two Full Height/ Full Length Riser options
 - Option1: full-length/full-height PCI-Express with two x 8 slots (Standard shipping option)
 - Option2: low-profile/half-height PCI-X slot populated by the SAS/SATA storage controller (optional)
- **Management:**
 - IPMI 2.0 upgrade module
 - HP Lights Out 100i Remote Management with new licensed key activated upgrades for Virtual KVM and virtual media support
 - ROM Setup Utility
- **USB Ports:**
 - Five USB ports (2) USB up front, (3) port rear, (1) port internal (optional)
- **Optical Drive:**
 - Support for one (optional):Multi-bay DVD
 - Optional Floppy (USB only, USB key)
- **Power Supply:**
 - 750W Power Supply (Redundant Non-Hot Plug, Autoswitching)
- **Form Factor:**
 - 2U rack models
- **Deployment/Serviceability:**
 - Tooled access to all system components for easy in rack serviceability
- **Warranty:**
 - Protected by HP Services and a worldwide network of HP Authorized Channel Partners, including a one-year, limited warranty, Next Business Day 1, year on-site limited Global warranty. Certain restrictions and exclusions apply. SATA hard drives have a one year warranty.

Standard Features

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: <http://h71028.www7.hp.com/ERC/downloads/4AA1-2747EEW.pdf>

NOTE: For the Standard Features shipped in the Factory Integrated Models, please see the "Configuration Information - Factory Integrated Models" section.

Processor Dual-Core Intel® Xeon® processor 5110 (1.60 GHz, 65 W, 1066 MHz FSB)*
 One of the following
 depending on Model Quad-Core Intel® Xeon® processor 5310 (1.60 GHz, 80 W, 1066 MHz FSB)*
 *Available through Configure To Order only. See Factory Integration Models section for more details.

Upgradeability Upgradeable to two processors

Chipset Intel® 5000V Chipset

Cache Memory 8 MB (2 x 4 MB) Level 2 cache (5300 sequence)
 4 MB (1 x 4 MB) Level 2 cache (5100 sequence)

Memory Protection ECC capabilities

Memory	Type	PC2-5300 Fully Buffered DIMMs (DDR2-667)	
	Standard	512 MB	(1 x 512 MB)
		1 GB	(1 x 1 GB)
	Maximum	16 GB	(4 x 4 GB)

Network Controller One NC7781 PCI-X Gigabit NIC (embedded) (Wake on LAN and PXE capable)

Expansion Slots #	Technology	Bus Width***	Connector Width	Bus Number*	Device No.**	Form Factor	Notes
1	PCI-X (133MHz, 3.3 Volt)	64-bit	N/A	5	1	Full length, full height slot	PCI-X bus speed will be 133MHz when only one PCI-X card is installed
2	PCIe2	X8	x16	6	3	Low profile slot	
2	PCI-X (133MHz, 3.3 Volt)	64-bit	Not applicable	5	1	Low profile slot	PCI-X bus speed will be 100MHz when both slots have PCI-X cards installed.

Standard Features

*Default bus assignment (in decimal). 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).

*** Indicates the number of physical electrical lanes running to a PCI-e connector.

Storage Controller	4HDD Models	HP Embedded SATA RAID Controller (integrated into the south-bridge) supporting SW RAID 0,1
---------------------------	-------------	--

NOTE: A diskette drive is needed to install storage controller drivers during a Windows operating system installation from a CD.

Storage	Optical Drives:	
	DVD-ROM	8x IDE (ATAPI) DVD-ROM drive, slim (optional)
	DVD RW	8x IDE (ATAPI) DVD-RW drive, slim (optional)
	Diskette Drives	Via USB only
	Drive Bays:	
	Hot-Plug SAS/SATA	Up to 8 hot plug SAS/SATA 3.5" drives (4 standard) NOTE: 4 Drive Models are Non-Hot Pluggable. Smart Array Controller must be added for Hot Plug drive capability

Maximum Internal Storage	SATA Maximum Internal	6TB	8 x 750 GB
	SAS Maximum Internal	2.4TB	8 x 300 GB

Interfaces	Parallel	None
	Network RJ-45 (Ethernet)	1 10/100/1000 NIC ports (plus 1 optional for the HP ProLiant Lights Out 100i Remote Management)
	Serial	1
	Pointing Device (Mouse)	1
	Graphics	1
	Keyboard	1
	USB	5 total ports: (2) USB up front, (3) port rear, (1) port internal (optional) NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html

Graphics	Integrated on the system board: 1280 x 1024 at 8bpp (bits per pixel) or $2^8 = 256$ colors or 1024 x 768 at 16bpp (bits per pixel) or $2^{16} = 65536$ or 64k colors
-----------------	---

Form Factor	Rack Mount (2U), (3.5 in/8.89 cm)
--------------------	-----------------------------------

Standard Features

Server Management Stand Alone Software Product - ProLiant Essentials	Rapid Deployment Pack (RDP)	Is an automated deployment and provisioning solution for all HP 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 .
	HP Systems Insight Manager	HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible standards-based environment to centrally manage servers, storage and other infrastructure devices, (both HP and non-HP) across multiple operating system platforms.
	HP Lights-Out 100i Remote Management	HP Lights-Out 100i Remote Management delivers affordable, entry level remote management capabilities for ProLiant 100 Series servers with embedded LO100i. It allows customers or their service providers to remotely manage ProLiant 100 Series servers remotely over a LAN or the Internet and consists of the following: <ul style="list-style-type: none">● Lights-Out Standard :<ul style="list-style-type: none">○ LO100i Standard is embedded remote management and provides basic remote control via telnet, browser, and IPMI 2.0 and SMASH● Lights-Out 100i Select Pack Licenses:<ul style="list-style-type: none">○ LO100i Select Pack License are upgrades for essential, secure, remote control, serial console and virtual media● Lights-Out 100i Advanced Pack Licenses:<ul style="list-style-type: none">○ LO100i Advanced Pack License are upgrades for all the features of LO100i Select plus Virtual KVM (graphical hardware-based, remote console)

NOTE: Flexible and volume quantity (AKA) license kits are available for both the Lights-Out 100i Select and Lights-Out 100 Advanced Pack licenses as well as Electronic License To Use (E-LTU). AKA Tracking licenses require a 100 unit minimum forecast at initial contract signing. For these additional part numbers, please refer to each software products' QuickSpecs at this link for more information:

<http://h18004.www1.hp.com/products/servers/management/remotemgmt.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>.

Standard Features

Core Infrastructure Management

Subscriber's Choice

Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides 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, software and drivers

The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options, available through software and drivers download pages website at <http://www.hp.com/go/support>.

Industry Standard Compliance

ACPI V2.0 Compliant

PCI 2.2 Compliant

PXE Support

WOL Support

Microsoft® Logo certifications

IPMI 2.0 Compliant

Manageability

HP Lights-Out 100i Standard providing the following OS-independent remote control capabilities:

- Virtual power
- System event log access
- System health
- Remote Serial console (serial redirection)
- Browser, Telnet access
- SM-CLP compliant
- IPMI 2.0 compliant

HP Lights-Out 100i Select Pack providing license key activated upgrades to the following:

- Virtual media (Floppy and CD)
- Secure Socket Layer Encryption
- Secure Shell Encryption

HP Lights-Out 100i Advanced Pack providing license key activated upgrades to the following:

- Virtual KVM (KVM over IP functionality embedded on the system board) plus all of the LO100i Select Pack features above.

Security

Power-on password

Setup password

Server Power Cords

One Highline IEC Power cord ships standard (for connection to a Power Distribution Unit)

NOTE: Rack models ship standard with an IEC cable.

Localized cables included with geographic specific models in other world regions.

Standard Features

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:

<http://h18004.www1.hp.com/products/servers/proliantstorage/power-protection/index.html>

Power Supply

750Watts, - Non-Hot-plug optional redundant

System Fans

4 system fans ship standard; Non-hot plug, Non-redundant

OS Support

Microsoft Windows® 2000 Server (32-bit)
Microsoft Windows 2000 Advanced Server (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 Standard Edition (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 Enterprise Edition (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 Web Edition (32-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 for Extended Systems Standard Edition (64-bit)
Microsoft Windows 2003 and Microsoft Windows 2003/R2 for Extended Systems Enterprise Edition (64-bit)
Microsoft Windows Server 2008
Red Hat Enterprise Linux
SUSE Linux Enterprise Server

NOTE: For an up-to-date listing of the latest OS support matrix, please see:

<http://www.hp.com/go/supportos>

NOTE: For an up-to-date listing of the latest software and drivers available for your server, please select your server: <http://h20000.www2.hp.com/bizsupport/TechSupport/Product.jsp?lang=en&cc=us&taskId=135&prodTypeId=15351&prodCatId=241435>.

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: Drivers may also found on the base media for some Linux OS's. When configuring your server, please consult your base media driver base, or visit HP.com at:

<http://h18023.www1.hp.com/support/files/server/us/index.html>

NOTE: For more Linux OS support & certification information, please visit our the ProLiant & BladeSystem Server Linux matrix <http://h18004.www1.hp.com/products/servers/linux/hpLinuxcert.html>

Standard Features

Rack Airflow Requirements

Rack 10000 series Cabinets

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

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

Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).

Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 inches)

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.www.hp.com/products/servers/proliantDL180/index.html>

Rack Kit

HP ProLiant DL180 rack models have universal sliding rails which provide tool-free support for round or square and mounting holes (including Compaq/HP 7000, 9000, 10000 and H9 series) with an adjustment range from 22.25 - 37.75" depth.

NOTE: For additional information, please visit: <http://www.racksolutions.com/hp>

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>.

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>.

Standard Features

HP Enterprise Configurator

The HP eCo-Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for one year 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: Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

HP services provide total care and support expertise with committed response designed to meet your IT and business needs.

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.

To fully capitalize on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - Simplify ProLiant solution implementation, maintenance and management.

- **Support Service** -3 Year, 9x5 Next Business Day coverage, excluding HP holidays only
- **Deployment Service** - Hardware Installation only

Enhanced Service - Optimize service level to increase IT performance and availability

- **Support Service** - 3 Year 13x5 Same Business Day, 4-Hour response coverage
- **Deployment Service** - Installation and Start-up only

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, excluding HP holidays.

For a complete listing of service offerings and information visit:

<http://www.hp.com/services/proliantservices>

<http://www.hp.com/go/proliant/carepack>

Models

Four Drive Serial ATA (SATA)/Serial Attached SCSI (SAS) Models

<p>HP DL180, 5310, 1 GB 442853-xx1</p> <p>HP DL180, 5110, 512 MB 442854-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 One of the following depending on model</p> <p>Network Controller</p> <p>Storage Controller</p> <p>Hard Drive</p> <p>Internal Storage</p> <p>Optical Drive</p> <p>Form Factor</p>	<p>(1) Quad-Core Intel® Xeon® processor 5310 (1.60 GHz, 80 W, 1066 MHz FSB) (1) Dual-Core Intel® Xeon® processor 5110 (1.60 GHz, 80 W, 1066 MHz FSB)</p> <p>8 MB (2 x 4 MB) Level 2 cache (5300 sequence) 4 MB (1 x 4 MB) Level 2 cache (5100 sequence)</p> <p>512 MB (1 x 512 MB) PC2-5300 DDR2 Fully Buffered DIMMs (667 MHz) with ECC capabilities 1 GB (1 x 1 GB) PC2-5300 DDR2 Fully Buffered DIMMs (667 MHz) with ECC capabilities</p> <p>One NC7781 PCI-X Gigabit NIC (embedded) (Wake on LAN and PXE capable)</p> <p>Embedded SATS Raid Standard</p> <p>None ship standard (up to 8 Hot Plug SATA or SAS drives supported)</p> <p>Internal storage capacity of up to 6TB (8 x 750 GB Hot Plug 3.5" SATA hard drives), 2.4TB (8 x 300 GB Hot Plug 3.5" SAS hard drives)</p> <p>DVD-ROM, DVD RW (Optional)</p> <p>Rack Mount (2U)</p>
---	--	---

NOTE: Server models supporting 4 hard drives are Non-Hot Pluggable. Smart Array Controller must be added for Hot Plug drive capability.

NOTE: To upgrade to server models supporting 8 hard drives; you must start with HP ProLiant DL180 CTO Chassis (P/N 444768-B21). Please see the Configuration To Order section below.

Country Code Key	XX=29	Japan
	XX=37	APD
	XX=AA	CN

Options

Processor	Quad-Core Intel® Xeon® processor X5355 (2.66 GHz, 120 W, 1333 MHz FSB) Option Kit*	453527-B21
	Quad-Core Intel® Xeon® processor E5335 (2.00 GHz, 80 W, 1333 MHz FSB) Option Kit*	449119-B21
	Quad-Core Intel® Xeon® processor L5320 (1.86 GHz, 50 W, 1066 MHz FSB) Option Kit*	449121-B21
	Quad-Core Intel® Xeon® processor E5310 (1.60 GHz, 80 W, 1066 MHz FSB) Option Kit	447125-B21
	Dual-Core Intel® Xeon® processor 5150 (2.66 GHz, 65 W, 1333 MHz FSB) Option Kit*	449113-B21
	Dual-Core Intel® Xeon® processor 5120 (2.33 GHz, 40 W, 1333 MHz FSB, Low Voltage) Option Kit*	433253-B21
	Dual-Core Intel® Xeon® processor 5140 (2.33 GHz, 65 W, 1333 MHz FSB) Option Kit	449115-B21
	Dual-Core Intel® Xeon® processor 5120 (1.86 GHz, 80 W, 1333 MHz FSB) FIO BASE	449117-B21
	Dual-Core Intel® Xeon® processor 5310 (2.00 GHz, 65 W, 1333 MHz FSB) Option Kit*	451813-B21
	Dual-Core Intel® Xeon® processor 5110 (1.60 GHz, 65 W, 1066 MHz FSB) Option Kit	447123-B21

*Available via Factory Integration Only.

Memory	512 MB FBD PC2-5300 1 X 512 MB Kit	413507-B21
	1 GB FBD PC2-5300 2 X 512 MB Kit	397409-B21
	1 GB FBD PC2-5300 1 X 1 GB Kit	445224-B21
	2 GB FBD PC2-5300 2 X 1 GB Kit	397411-B21
	4 GB FBD PC2-5300 2 X 2 GB Kit	397413-B21
	8 GB FBD PC2-5300 2 X 4 GB Kit	397415-B21

Hard Drives	Serial-ATA (SATA) Hot Plug Hard Drives	
	HP 80 GB SATA 7.2K Hot Plug 3.5" HDD	349237-B21
	HP 160 GB SATA 7.2K Hot Plug 3.5" HDD	349238-B21
	HP 250 GB SATA 7.2K Hot Plug 3.5" HDD	349239-B21
	HP 500 GB SATA 7.2K Hot Plug 3.5" HDD	395473-B21
	HP 750 GB SATA 7.2K Hot Plug 3.5" HDD	432341-B21
	Serial-Attached SCSI (SAS) Hot Plug Hard Drives	
	HP 72 GB 3 G SAS 15K 3.5" DP HDD	384852-B21
	HP 72 GB 3 G SAS 15K 3.5" SP HDD	375870-B21
	HP 146 GB 3 G SAS 15K 3.5" DP HDD	384854-B21
	HP 146 GB 3 G SAS 15K 3.5" SP HDD	375872-B21
	HP 300 GB 3 G SAS 15K 3.5" DP HDD	416127-B21
	HP 300 GB 3 G SAS 15K 3.5" SP HDD	431944-B21

Options

NOTE: If selecting more than 4 hard drives a Smart Array controller and two SAS/SATA cables (P/N 453255-B21) are required.

Optical Drives	DVD-ROM Drive (optional)	361040-B22
	DVD-RW Drive (optional)	395498-B22

Storage Controllers	SAS Controllers	
	HP 8 Internal Port SAS HBA with RAID	347786-B21
	NOTE: For use with Hot Plug SAS/SATA models. Required only when upgrading from a non-hot plug to a hot plug model.	
	NOTE: The selection HP 8 Internal Port SAS HBA with RAID requires the purchase of the PCI-X Riser Option kit (P/N 409347-B21)	
	HP Smart Array E200/128 BBWC Controller	411508-B21
	128MB Battery-Backed Write Cache	351580-B21
	HP PCI-X Riser Board Kit	409347-B21
	Internal SAS/SATA Cable	453255-B21
	NOTE: If selecting more than 4 hard drives a Smart Array controller is required and two SAS/SATA cables (P/N 453255-B21).	
	HP Smart Array E500 Controller	435129-B21
	HP Smart Array P800/512 BBWC Controller	381513-B21
	NOTE: Please see the following QuickSpecs for Technical Specifications additional information: http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html (Smart Array P800 Controller)	
	Smart Array 6400 Controllers	
Smart Array 6402/128 Controller	273915-B21	
Smart Array 6404/256 Controller	273914-B21	

Communications	HP NC110T PCI Express 1 Port Gigabit Server Adapter	434905-B21
	NOTE: Does not support Windows 2000.	
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	NOTE: Does not support Windows 2000.	
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC380T PCI Express Dual Port Multifunction Gigabit Server Adapter	394795-B21
	HP NC510C PCIe 10 Gigabit Server Adapter	414129-B21
NOTE: A minimum of 1 gigabyte (1 GB) of server memory is required per each NC510C adapter.		

Rack Kits	HP Rack Cable Management Velcro Clips	379820-B21
-----------	---------------------------------------	------------

Options

Tape Drives

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

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

USB Tape Drives

HP StorageWorks 1U USB Rack-Mount Kit with one DAT 72 USB Tape Drive AG594A

SAS Tape Drives

NOTE: For the DL180, HP recommends purchasing the HP SC44Ge HBA (416096-B21) for a dedicated SAS HBA for tape.

HP StorageWorks DAT 160 SAS Internal Tape Drive Q1587A

NOTE: HP recommends combining this tape drive with the 1U SAS Rack-Mount kit (AE459A) for a complete rack-mount solution.

HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive DW085A

NOTE: HP recommends combining this tape drive with the 1U SAS Rack-Mount kit (AE459A) for a complete rack-mount solution.

HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive EH847A

NOTE: HP recommends combining this tape drive with the 1U SAS Rack-Mount kit (AE459A) for a complete rack-mount solution.

HP StorageWorks LTO-4 Ultrium 1760 SAS Internal Tape Drive EH919A

HP StorageWorks 1U SAS Rack-mount kit with one LTO-4 Ultrium 1760 EH946A

HP StorageWorks LTO-4 Ultrium 1840 SAS Internal Tape Drive EH860A

NOTE: HP recommends combining this tape drive with the 3U SAS Rack-Mount kit (AG576A) for a complete rack-mount solution.

Ultrium Tape Drives

NOTE: For the DL180, HP recommends purchasing the HP SC11xe HBA (412911-B21) for a dedicated SCSI HBA for tape.

HP StorageWorks 1U SCSI Rack-mount kit with one LTO-2 Ultrium 448 SCSI Tape Drive (Carbonite) DW028B

HP StorageWorks 1U SCSI Rack-mount kit with one LTO-3 Ultrium 920 EH903A

HP StorageWorks 3U SCSI Rack-mount kit with one LTO-3 Ultrium 960 (Carbonite) Q1595B

HP StorageWorks 3U SCSI Rack-Mount with 1 LTO-4 Ultrium 1840 Tape Drive EH926A

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 SCSI Rack-Mount kit A7445B

NOTE: The 1U Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with multiple Single-Ended and LVD SCSI tape drives including the DAT 40, DAT 72, DAT 160, DLT VS160, LTO-1 Ultrium 232, LTO-2 Ultrium 448 and LTO-3 Ultrium 920 tape drives.

HP StorageWorks 1U USB Rack-Mount Kit A8007A

NOTE: The 1U USB Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with the DAT 40 USB, DAT 72 USB and DAT 160 tape drives.

Options

<p>HP StorageWorks 1U SAS Rack-Mount Kit NOTE: The 1U SAS Rack-Mount Kit can support up to (2) half-height tape drives and is compatible with the LTO-2 Ultrium 448 SAS and LTO-3 Ultrium 920 SAS tape drives.</p>	<p>AE459A</p>
<p>HP StorageWorks 3U Rack-mount kit NOTE: The 3U Rack-mount Kit can support up to (2) full-height or (4) half-height tape drives and compatible with multiple LVD SCSI tape drives including DAT 40, DAT 72, DAT 160, DLT VS160, SDLT 600, LTO-1 Ultrium 232, LTO-2 Ultrium 460, LTO-2 Ultrium 448, LTO-3 Ultrium 920, LTO-3 Ultrium 960 and LTO-4 Ultrium 1840 tape drives.</p>	<p>274338-B22</p>
<p>HP StorageWorks 3U SAS Rack-mount Kit NOTE: The 3U Rack-mount Kit can support up to (2) full-height or (4) half-height tape drives and compatible with multiple SAS tape drives including DAT 160 SAS, LTO-2 Ultrium 448 SAS, LTO-3 Ultrium 920 SAS, LTO-4 Ultrium 1760 SAS and LTO-4 Ultrium 1840 SAS 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)</p>	<p>AG576A</p>

<p>HP D2D Backup System</p>	<p>HP StorageWorks D2D110 Backup System NOTE: 2TB of Disk Storage</p>	<p>EH880A</p>
	<p>HP StorageWorks D2D110 Backup System with Data Protector Express Software Kit NOTE: 2TB of Disk Storage</p>	<p>EH923A</p>
	<p>HP StorageWorks D2D120 Backup System NOTE: 2TB of Disk Storage</p>	<p>EH884A</p>
	<p>HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit NOTE: 2TB of Disk Storage</p>	<p>EH924A</p>
	<p>HP StorageWorks D2D130 Backup System NOTE: 3TB of Disk Storage.</p>	<p>EH950A</p>
	<p>HP StorageWorks D2D130 Backup System with Data Protector Express Software Kit NOTE: 3TB of Disk Storage.</p>	<p>EH951A</p>
	<p>HP StorageWorks D2D130 Backup System with LTO-3 Ultrium 920 SAS Tape Drive NOTE: 3TB of Disk Storage. NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12651_div/12651_div.html (Worldwide)</p>	<p>EH952A</p>

Options

Tape Autoloaders	HP StorageWorks DAT Autoloader	
	HP StorageWorks DAT 72x10 tape autoloader	AE313B
	HP StorageWorks 1/8 Tape Autoloader	
	HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader	AK377A
	HP StorageWorks 1/8 G2 LTO-3 Ultrium 920 Tape Autoloader	AH165A
	HP StorageWorks 1/8 G2 LTO-3 Ultrium 920 SAS Autoloader	AH558A
	HP StorageWorks 1/8 G2 LTO-2 Ultrium 448 Tape Autoloader	AH164A
	HP StorageWorks 1/8 G2 LTO-1 Ultrium 232 Tape Autoloader	AH163A
	HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit	AH166A
	NOTE: Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions.	
	NOTE: Please reference the 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 LTO-4 Ultrium 1840 SCSI Drive Library	AJ033A
	HP StorageWorks MSL2024 1 LTO-4 Ultrium 1840 4GB FC Library	AJ034A
	HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Drive Library	AK378A
	HP StorageWorks MSL2024 1 LTO-3 Ultrium 960 SCSI Drive Library	AG115A
	HP StorageWorks MSL2024 1 LTO-3 Ultrium 960 4GB FC Library	AG326B
	HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SAS Drive Library	AH559A
	HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SCSI Drive Library	AH169A
	HP StorageWorks MSL2024 1 LTO-2 Ultrium 448 SCSI Drive Library	AG116A
	HP StorageWorks MSL4048 Tape Library	
	HP StorageWorks MSL4048 1 LTO-4 Ultrium 1840 SCSI Drive Library	AJ035A
	HP StorageWorks MSL4048 1 LTO-4 Ultrium 1840 4GB FC Library	AJ036A
	HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Drive Library	AK380A
	HP StorageWorks MSL4048 1 LTO-3 Ultrium 960 SCSI Drive Library	AG322A
	HP StorageWorks MSL4048 1 LTO-3 Ultrium 960 4GB FC Library	AG324B
	HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SAS Drive Library	AH560A
	HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SCSI Drive Library	AH171A
	HP StorageWorks MSL4048 1 LTO-2 Ultrium 448 SCSI Drive Library	AG320A
	HP StorageWorks MSL8096 Tape Library	
	HP StorageWorks MSL8096 2 LTO-4 Ultrium 1840 SCSI Drive Library	AJ039A
	HP StorageWorks MSL8096 2 LTO-4 Ultrium 1840 4GB FC Library	AJ040A
	HP StorageWorks MSL8096 2 LTO-4 Ultrium 1760 SAS Drive Library	AK382A
	HP StorageWorks MSL8096 2 LTO-3 Ultrium 920 SAS Drive Library	AH561A
	HP StorageWorks MSL8096 2 LTO-3 Ultrium 960 4GB FC Library	AH218A
	HP StorageWorks MSL8096 2 LTO-3 Ultrium 960 SCSI Drive Library	AH219A
	HP StorageWorks MSL6000 Tape Library	

Options

LTO-4 Ultrium 1840 technology

HP StorageWorks MSL6030 1 LTO-4 Ultrium 1840 SCSI Drive Library	AJ029A
HP StorageWorks MSL6030 1 LTO-4 Ultrium 1840 4GB FC Library	AJ030A
HP StorageWorks MSL6060 2 LTO-4 Ultrium 1840 SCSI Drive Library	AJ031A
HP StorageWorks MSL6060 2 LTO-4 Ultrium 1840 4GB FC Library	AJ032A

LTO-3 Ultrium 960 technology

HP StorageWorks MSL6030 1 LTO-3 Ultrium 960 SCSI Drive Library	AD606B
HP StorageWorks MSL6030 1 LTO-3 Ultrium 960 4GB FC Library	AD608B
HP StorageWorks MSL6030 2 LTO-3 Ultrium 960 SCSI Drive Library	AD607B
HP StorageWorks MSL6030 2 LTO-3 Ultrium 960 4GB FC Library	AD609B

NOTE: Please reference the MSL2024, MSL4048 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 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. NOTE: Please see the Modular Smart Array 20 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11942_div/11942_div.html (Worldwide)	335921-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. NOTE: Please see the Modular Smart Array 30 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/11738_div/11738_div.html (Worldwide)	302969-B21
---	--	------------

HP StorageWorks Modular Smart Array 50	HP StorageWorks Modular Smart Array 50 Enclosure (NA,EMEA,AP) NOTE: Rack-mountable 10 SFF drive enclosure with single I/O module, redundant hot plug power supplies and hot plug fans. NOTE: Please see the Modular Smart Array 50 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.html (Worldwide)	364430-B21
---	--	------------

Options

HP StorageWorks Modular Smart Array 60	<p>HP StorageWorks 60 Modular Smart Array</p> <p>NOTE: Rack-mountable 12-drive (3.5" 3G SAS/1.5G SATA) 2U enclosure with 3Gb/s SAS host connectivity and redundant power supplies.</p> <p>NOTE: Please see the Modular Smart Array 60 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html (Worldwide)</p>	418408-B21
---	---	------------

HP StorageWorks Modular Smart Array 70	<p>HP StorageWorks 70 Modular Smart Array</p> <p>NOTE: Rack-mountable 25-drive (2.5" 3G SAS/1.5G SATA) 2U enclosure with 3Gb/s SAS host connectivity and redundant power supplies.</p> <p>NOTE: Please see the Modular Smart Array 70 QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at: http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html (Worldwide)</p>	418800-B21
---	---	------------

StorageWorks Options	<p>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.</p>	
	HP StorageWorks 4 Gb PCI-X 2.0-to-Fibre Channel HBA	AB429A
	HP StorageWorks 4 Gb PCI-X 2.0 DC-to-Fibre Channel HBA	AE369A
	HP StorageWorks FC2142SR 4Gb PCI-E HBA	A8002A
	HP StorageWorks FC2242SR Dual Channel 4 Gb PCI-E HBA	A8003A
	HP StorageWorks FC1142SR 4Gb PCI-E HBA	AE311A
	HP StorageWorks FC1242SR Dual Channel 4 Gb PCI-E HBA	AE312A
	HP StorageWorks FC2143 4Gb PCI-X 2.0 HBA	AD167A
	HP StorageWorks FC2243 4Gb PCI-X 2.0 DC HBA	AD168A

Lights Out Management Card	HP ProLiant DL180 Lights-Out Management Card	451284-B21
-------------------------------	--	------------

USB Options	USB 1.44-MB External Diskette Drive	DC141B
	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	HP Keyboard (USB) standard 2004	DT528A#xxx
	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	HP 256MB USB 2.0 Floppy Drive Key	442084-B21
	HP USB Internal Cable Kit	451363-B21

Options

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.	
	HP Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	HP 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 1x4 Console Switch	AF611A
	HP PS2 Server Console Cable, 6 foot, 2-Pack	AF612A
	HP USB Server Console Cable, 6 foot, 2-Pack	AF613A
	NOTE: required for supporting USB peripherals.	
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 Serial Console Server Options	HP 16 Port Serial Console Server (worldwide)	AF101A
	HP 48 Port Serial Console Server (worldwide)	AF102A
	Serial Adapter, RJ45-D89 DCE Female, 1-pack	AF103A
	Serial Adapter, RJ45-D89 DCE Female, 8-pack	AF110A
	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 4-Hour On-site Service	
	13-Hour x 5-Day Coverage, 3 Years, Electronic	UH271E
	24-Hour x 7-Day Coverage, 3 Years, Electronic	UH272E
	Hardware Services Next Business Day On-Site Service	
	9-Hour x 5-Day Coverage, 3 Years, Electronic	UH270E
	Hardware Services 6-Hour Call to Repair On-Site Service	
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UH273E
	Hardware Installation, Electronic	UH301E
NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack		

Memory

HP ProLiant DL180

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

Standard Memory

1 GB (1 x 1GB) PC2-5300 Fully Buffered DIMM memory, with Advanced ECC Capabilities Memory installed.

Maximum Memory

Up to 16GB memory is available with the optional installation of PC2-5300 Fully Buffered DIMM memory kits.

NOTE: Memory should be installed in pairs and matched for optimum performance.

NOTE: Chart does not represent all possible memory configurations.

Memory	Slot							
	1	2	3	4				
Standard (1 GB)	1 GB	Empty	Empty	Empty				
Maximum (16 GB)	4 GB	4 GB	4 GB	4 GB				

Following are memory options available from HP:

1 GB FBD PC2-5300 2X512 MB Kit	397409-B21
1 GB FBD PC2-5300 1X1 GB Kit	445224-B21
2 GB FBD PC2-5300 2X1GB Kit	397411-B21
4 GB FBD PC2-5300 2X2GB Kit	397413-B21
8 GB FBD PC2-5300 2X4GB Kit	397415-B21

Storage



- 1-8 Eight 3.5" Hot Plug SAS/SATA Hard Drive Bays
- DVD-ROM, DVD RW
- Power On/Off

Drive Support

Removable Media

	Quantity Supported	Position Supported	Controller
DVD-ROM	Up to 1	3	Integrated IDE (ATAPI) (optional)
DVD RW	Up to 1	3	Integrated IDE (ATAPI) (optional)

Hard Drives

SAS/SATA Hot Plug

	Quantity Supported	Position Supported	Controller
3.5-inch			
80 GB SATA 7,200 rpm	Up to 8	1-8	HP Smart Array E200/128 BBWC Controller
160 GB SATA 7,200 rpm	Up to 8	1-8	HP Smart Array P400/256MB Controller
250 GB SATA 7,200 rpm	Up to 8	1-8	HP Smart Array E500/256MB Controller
500 GB SATA 7,200 rpm	Up to 8	1-8	HP Smart Array P800/512 BBWC Controller
750 GB SATA 7,200 rpm	Up to 8	1-8	HP SC44Ge Host Bus Adapter
72 GB SAS 15,000 rpm	Up to 8	1-8	HP SC11Xe Host Bus Adapter
146 GB SAS 15,000 rpm	Up to 8	1-8	
300 GB SAS 15,000 rpm	Up to 8	1-8	

External Storage

	Quantity Supported	Position Supported	Controller
HP Storageworks MSA20 Enclosure	Up to 2 per SA 6402 Up to 4 per SA 6404	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
HP Storageworks MSA30 D-B Enclosure	Up to 2 per SA 6402 Up to 4 per SA 6404	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller
HP Storageworks MSA30 S-B Enclosure	Up to 2 per SA 6402 Up to 4 per SA 6404	External	HP Smart Array P800/512 BBWC Controller
HP Storageworks MSA50 Enclosure	Up to 2	External	HP Smart Array P800/512 BBWC Controller

Storage

HP StorageWorks MSA60 Enclosure	Up to 8 per SA P800	External	HP Smart Array P800/512 BBWC Controller
HP StorageWorks MSA70 Enclosure	Up to 8 per SA P800	External	Smart Array 6402/128 Controller Smart Array 6404/256 Controller Smart Array 642 Controller

Tape Drives, Tape Autoloaders, Tape Libraries & D2D Backup Systems

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>

NOTE: SAS Tape Drives: Connecting hard drive cage and SAS tape to the same SAS Controller using split cable (supplied with tape drive) deactivates 1 of the hard drive bays. Actual hard drive bay deactivated depends on where split cable plugs into SAS drive connector. Example: 3x SAS cable connector plugged into SAS drive connector (5-8) on the back of the hard drive cage would mean drive bay 8 is deactivated.

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

	Position Supported	Controller	Controller/HBA Option Kit Part Number
HP StorageWorks SCSI Tape Drives, External LTO-1 Ultrium 232 LTO-2 Ultrium 448 LTO-3 Ultrium 920 LTO-3 Ultrium 960 LTO-4 Ultrium 1840 DAT 40 DAT 72 DAT 160 DLT VS160 SDLT 600 1U Rack-Mount Kit 3U Rack-Mount Kit	External	HP SC11Xe Host Bus Adapter	412911-B21
HP StorageWorks USB Tape Drives, External DAT 40 USB DAT 72 USB DAT 160 USB 1U Rack-Mount Kit	External	USB 2.0 Port	N/A
HP StorageWorks SAS Tape Drives, External	External	HP SC44Ge Host Bus Adapter * HP Smart Array E500 Controller	416096-B21 435129-B21



Storage

DAT 160 SAS		HP Smart Array P800/512 BBWC Controller	381513-B21
LTO-2 Ultrium 448 SAS		NOTE: The following SAS Smart Array controllers require ROM Flash version 2.04 or higher for SAS tape support:	
LTO-3 Ultrium 920 SAS		HP Smart Array P400/256MB Controller	405132-B21
LTO-4 Ultrium 1760 SAS		HP Smart Array P400/512MB Controller	411064-B21
1U Rack-Mount Kit		* Recommended	
3U Rack-Mount Kit			
HP StorageWorks SCSI Tape Automation, External	External	HP SC11Xe Host Bus Adapter	412911-B21
DAT 72x10 Autoloader		HP U320e SCSI Host Bus Adapter	AH627A
1/8 Tape Autoloader		NOTE: Only valid for MSL tape libraries.	
MSL2024			
MSL4048			
MSL8096			
MSL6000			
HP StorageWorks SAS Tape Automation, External	External	HP SC44Ge Host Bus Adapter	416096-B21
1/8 G2 Autoloader		NOTE: Please visit: http://www.hp.com/go/connect for details about minimum SAS controller firmware version and SAS cabling requirements.	
MSL2024			
MSL4048			
MSL8096			
HP StorageWorks Fibre Tape Libraries, External	External	Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for detailed connectivity information.	N/A
MSL2024			
MSL4048			
MSL8096			
MSL6000			
HP StorageWorks D2D Backup Systems	External	Embedded Network Controller	N/A
D2D110			
D2D120			
D2D130			

Power Specifications

750W Power Supply Spare Kit	451366-291, -AA1, -B21
Operational Input Voltage Range (Vrms)	90 Vac to 264 Vac full range
Frequency Range (Nominal) (Hz)	47 Hz to 63 Hz

Nominal Input Voltage (Vrms)	100	115	200	220	230	240
Max Rated Output Wattage Rating	750	750	750	750	750	750
Nominal Input Current (Arms)	9.1	7.9	4.3	4.0	3.8	3.7
Max Rated Input Wattage Rating (Watts)	893	888	872	862	862	862
Max. Rated VA (Volt-Amp)	911	906	890	880	880	880
Efficiency (%)	84	84.5	86	87	87	87
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)	30A	30A	30A	30A	30A	30A
Maximum Inrush Current Duration (mS)	5mS	5mS	5mS	5mS	5mS	5mS

Technical Specifications

System Unit	Dimensions (HxWxD) (with feet)	3.44 x 117.64 x 29.00 in (8.75 x 44.80 x 73.66 cm)	
	Weight (approximate)	Maximum	51.5 lb (19.22 kg) (all hard drives, power supplies and processors installed)
		Minimum	35.0 lbs (13.06 kg) (one hard drive, power supply and processor installed)
	Power Specifications	<p>To review typical system power ratings use the 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 system of interest. Example: DL180 - Follow the instructions of the next screen</p>	
	System Inlet Temperature	Operating	10° to 35° C (50° to 95° F) at sea level with an altitude derating of 1.0° C per every 305 m (1.8° F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10° C/hr (18° F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
		Non-operating	-30° to 60° C (-22° to 140° F). Maximum rate of change is 20° C/hr (36° F/hr).
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28° C (82.4° F) maximum wet bulb temperature, non-condensing.
		Non-operating	5 to 95% relative humidity (Rh), 38.7° C (101.7° F) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
		Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	
		Idle	
		LWAd	6.7 B

Technical Specifications

LpAm	51 dBA
Operating	
LWAd	6.7 B
LpAm	51 dBA

One NC7781 PCI-X Gigabit NIC (embedded) (Wake on LAN and PXE capable)	Network Interface Compatibility	10Base-T/100Base-TX/1000Base-TX	
		IEEE 802.3 10Base-T	
		IEEE 802.3 1000Base-T	
		IEEE 802.3 100Base-TX	
	Data Transfer Method	64-bit, 133MHz PCI(X)1.0	
	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	RJ-45		
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-TX	Category 5 UTP (2 Pair); up to 328 ft (100 m)	

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.
---	---	--

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

© Copyright 2008 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Intel, the Intel logo, Xeon and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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



