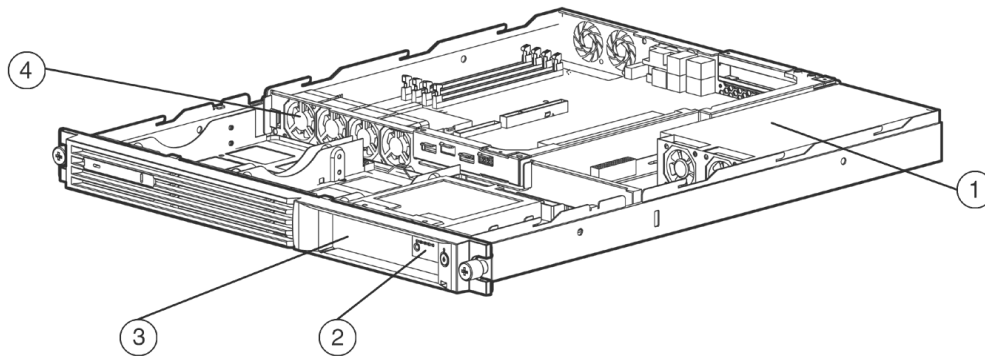


### Overview



1. Power Supply
2. LED Indicators
3. Removable CD-ROM/Diskette Drive Assembly Option Kit (included in some models)
4. Fan Assembly

### What's New

- Intel® Pentium 4 - 3.06-GHz FC-PGA (Flip Chip-Pin Grid Array) processor (single capability) with 512-KB level 2 cache with Hyper-Threading technology

### At a Glance

- Intel Pentium 4 - 3.06GHz, with Hyper-Threading technology, 2.66-GHz or 2.26-GHz or FC-PGA (Flip Chip-Pin Grid Array) processor (single capability) with 512-KB level 2 cache
- The ProLiant DL320 G2 is the cost-effective 1U, 1-way server for flexibly deploying and managing front-end and single-function applications
- 1U Rack form factor (1.75")
- ServerWorks CMIC-SL Chipset with 533-MHz Front Side Bus
- 128-MB PC2100 ECC DDR SDRAM Memory, expandable to 4 GB
- One full-length 64-bit/33-MHz PCI slot available
- Two NC7760 PCI Gigabit Server Adapters (embedded)
- Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID (0, 1)
- Optional Slotless Single Channel Wide Ultra3 SCSI Controller Module
- Internal storage capacity of up to 274\* GB in ATA Models (2 x 160\* GB 1" ATA/100 Non-Hot Plug Drives) or 72GB (2 x 36GB 1" non hot plug SCSI)
- 180-Watt PFC Power Supply
- Front and Rear Unit Identification switches (UID)
- Exceptional serviceability with optional sliding rails, cable management and in-rack toolless service ability access Automatic Server Recovery (ASR), Insight Manager and SmartStart

**\*NOTE:** Please note that the internal ATA controller will only recognize a maximum of 137GB/HDD in the DL320 G2. If the hard drive bays are populated with 160GB HDDs, the system will recognize a max of 137GB each, for a maximum storage capacity of 274GB.

Protected by HP Services, including a three-year parts, one-year labor, one-year, on-site service, Next Business Day -limited, global warranty and extended, Pre-Failure Warranty which covers processors, memory, and hard drives - Certain restrictions and exclusions apply. Consult the HP Customer Support Center at 1-800-345-1518 for details.

### Standard Features

<b>Processor</b>	Intel Pentium 4 - 3.06-GHz (FC-PGA) Processor (With Hyper-Threading technology) Intel Pentium 4 - 2.66-GHz (FC-PGA) Processor Intel Pentium 4 - 2.26-GHz (FC-PGA) Processor	
<b>Chipset</b>	ServerWorks GC-SL Chipset with 533-MHz Front Side Bus <b>NOTE:</b> For more information regarding ServerWorks, please see the following URL: <a href="http://www.serverworks.com/products/overview.html">http://www.serverworks.com/products/overview.html</a>	
<b>Memory</b>	Standard	128 MB (PC2100-MHz Registered ECC DDR SDRAM DIMM memory)
	Maximum	4 GB
<b>Network Controller</b>	Two NC7760 PCI Gigabit Server Adapters (embedded)	
<b>Expansion Slots</b>	I/O (1 Total, 1 available) 64-bit/33 MHz PCI 1	PCI Voltage: 3.3 Volt or universal cards
<b>Storage Controllers</b>	Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1	
<b>Storage</b>	Diskette Drives	1.44 MB (included in some models) <b>NOTE:</b> CD-ROM/Diskette Drive Assembly Option Kit 301048-B21 and DVD-ROM/Diskette Option Kit 268494-B21 are available
	CD-ROM	24x IDE (ATAPI) Low-Profile CD-ROM Drive (included in some models) <b>NOTE:</b> CD-ROM/Diskette Drive Assembly Option Kit 301048-B21 and DVD-ROM/Diskette Option Kit 268494-B21 are available
	Hard Drives	One of the following: (depending on model) None 80-GB ATA drive
	Maximum Internal Storage	One of the following: (depending on model) 320 GB (2 x 160 GB Ultra ATA/100 7,200 rpm non-hot plug 1" drives)
<b>Interfaces</b>	Serial	1
	USB	2 <b>NOTE:</b> Please see the following URL for additional information regarding USB support: <a href="http://www.compaq.com/products/servers/platforms/usb-support.html">http://www.compaq.com/products/servers/platforms/usb-support.html</a>
	Graphics	1
	Keyboard	1
	Mouse	1
	Network RJ-45	2
<b>Graphics</b>	Integrated ATI RAGE XL Video Controller with 8-MB SDRAM Video Memory	
<b>Form Factor</b>	Rack (1U), (1.75 in/4.45 cm)	

### Standard Features

#### ProLiant Essentials Foundation Pack Software

Insight Manager 7 and HP Systems Insight Manager

Insight Manager 7 and HP's new HP Systems Insight Manager help maximize system uptime and performance and reduce system maintenance costs by providing proactive notification of problems before those problems result in unplanned downtime or reduced productivity. Insight Manager 7 and HP Systems Insight Manager are both easy to set up work with the Insight Management Agents, integrated Light-Out and Remote Insight Light-Out Edition, and Version Control Agents to deliver robust fault, configuration, and asset management as well as remote administration. With HP Systems Insight Manager customers will also be able to take advantage of role-based security; the ability to manage ProLiant, Integrity, and HP9000 systems; and plug-ins for storage, client, printer, and power management as well as server rapid deployment, performance management, and workload management. For more details on HP Systems Insight Manager visit <http://www.hp.com/go/hpsim>

SmartStart

SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at <http://www.hp.com/servers/smartstart>. SmartStart version supported (minimum): SmartStart 6.40.

Management Agents

The Management Agents form the foundation for HP's Intelligent Manageability strategy. They provide direct, browser-based access to in-depth instrumentation built into HP servers, workstations, desktops, and portables, and send alerts to Insight Manager 7 and other enterprise management applications in case of subsystem or environmental failures. For additional information about the Management Agents and other management products from HP, please visit the management Web site at <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.

Optional ProLiant Essentials Value Packs

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

- Rapid Deployment Pack – an automated solution for multi-server deployment and provisioning, enabling companies to quickly and easily adapt to changing business demands.
- Workload Management Pack – provides easier management of complex environments, improving overall server utilization and enabling Windows® 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.
- 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.

**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

#### Industry Standard Compliance

PCI 2.2 Compliant  
PXE Support  
WOL Support  
Microsoft® Logo certifications  
USB 1.1

#### Intelligent Manageability

Automatic Server Recovery (ASR)  
Remote Insight Lights-Out Edition II (optional)  
Insight Manager 7  
HP Systems Insight Manager  
Integrated Management Log  
Drive Parameter Tracking (with Smart Array Controllers)  
Dynamic Sector Repairing (with Smart Array Controllers)  
Pre-Failure Warranty (covers processors, hard drives and memory)

#### Security

Power-on password  
Keyboard password  
Diskette drive control  
Diskette boot control  
Removable CD-ROM/Diskette Drive Assembly  
Administrator's password

#### Server Power Cords

One Lowline and one Highline (IEC-IEC) power cord ships standard.

#### Power Supply

Auto-sensing 180-Watt PFC Power Supply, CE Mark Compliant

#### System Fans

6 fans ship standard. 6 total supported internally.

#### Ultra Thin Rack Deployment Overview

For the Ultra Thin Rack Deployment Overview, including best practices for the HP ProLiant DL320, please see the following URL: <http://www.compaq.com/products/servers/ProLiantdl320/>.

#### Required Cabling

For required cabling information, refer to the Web site at: <http://www.compaq.com/products/servers/ProLiantdl320/>.

#### OS Support

Microsoft Windows NT® Server  
Microsoft Windows 2000 Server  
Windows Server 2003  
LINUX (Red Hat, SuSE, UnitedLinux)

**NOTE:** Support differences will exist between the ATA and SCSI configurations.

**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 an up-to-date listing of the latest drivers available for the HP ProLiant DL320, please see: <http://www.compaq.com/support/files/server/us/index.html>.

**NOTE:** For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at <http://h18000.www1.hp.com/products/servers/linux/hpLinuxcert.html>.

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

### 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://www5.compaq.com/products/servers/ProLiantDL320/index.html>

#### HP Factory Express Capabilities

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

#### Service and Support

Three-year limited warranty, including hardware diagnostic support, pre-failure warranty (coverage of hard drives, memory and processors). The warranty is fully supported by HP Services and a worldwide network of resellers and service providers. In addition 90-day's getting started software telephone support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services.

**NOTE:** Limited warranty includes 3 year parts, 1 year labor, 1-year on-site support

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

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

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

HP Care Pack Services include HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3KVA. 22" and smaller external monitors will be covered at the same service level and coverage period as the server. 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

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<b>DL320R02 3.06-512 KB, 128 MB, ATA without CD/Floppy</b> 336549-001	<b>Processor(s)</b>	Intel Pentium 4 - 3.06-GHz (FC-PGA) Processor standard (With Hyper-Threading technology)
	<b>Cache Memory</b>	512-KB level 2 cache
	<b>Memory</b>	128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory
	<b>Network Controller</b>	Two - NC7760 PCI Gigabit Server Adapters (embedded)
	<b>Storage Controller</b>	Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1
	<b>Hard Drives</b>	None ship standard
	<b>Internal Storage</b>	274-GB maximum (with optional hard drives)
	<b>Optical Drive</b>	Optional
	<b>Diskette Drive</b>	Optional
	<b>Form Factor</b>	Rack (1U), (1.75 in/4.45 cm)

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<b>DL320R02 P3.06-512 KB, 128 MB, ATA 80 GB with CD/Floppy</b> 336549-002	<b>Processor(s)</b>	Intel Pentium 4 - 3.06-GHz (FC-PGA) Processor standard (With Hyper-Threading technology)
	<b>Cache Memory</b>	512-KB level 2 cache
	<b>Memory</b>	128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory
	<b>Network Controller</b>	Two - NC7760 PCI Gigabit Server Adapters (embedded)
	<b>Storage Controller</b>	Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1
	<b>Hard Drives</b>	One 80-GB Ultra ATA/100 7,200 rpm non-hot plug 1" drive
	<b>Internal Storage</b>	274-GB maximum (with optional hard drives)
	<b>Optical Drive</b>	24x IDE (ATAPI) CD-ROM Drive (Low-Profile)
	<b>Diskette Drive</b>	1.44 MB Floppy
	<b>Form Factor</b>	Rack (1U), (1.75 in/4.45 cm)

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<b>DL320R02 P2.66-512 KB, 128 MB, ATA without CD/Floppy</b> 322544-001	<b>Processor(s)</b>	Intel Pentium 4 - 2.66-GHz (FC-PGA) Processor standard
	<b>Cache Memory</b>	512-KB level 2 cache
	<b>Memory</b>	128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory
	<b>Network Controller</b>	Two - NC7760 PCI Gigabit Server Adapters (embedded)
	<b>Storage Controller</b>	Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1
	<b>Hard Drives</b>	None ship standard
	<b>Internal Storage</b>	274-GB maximum (with optional hard drives)
	<b>Optical Drive</b>	Optional
	<b>Diskette Drive</b>	Optional
	<b>Form Factor</b>	Rack (1U), (1.75 in/4.45 cm)

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### Models

<p><b>DL320R02 P2.66-512 KB, 128 MB, ATA 80 GB with CD/Floppy</b> 322544-002</p>	<p><b>Processor(s)</b> <b>Cache Memory</b> <b>Memory</b></p> <p><b>Network Controller</b> <b>Storage Controller</b> <b>Hard Drives</b> <b>Internal Storage</b> <b>Optical Drive</b> <b>Diskette Drive</b> <b>Form Factor</b></p>	<p>Intel Pentium 4 - 2.66-GHz (FC-PGA) Processor standard 512-KB level 2 cache 128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory Two - NC7760 PCI Gigabit Server Adapters (embedded) Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1 One 80-GB Ultra ATA/100 7,200 rpm non-hot plug 1" drive 274-GB maximum (with optional hard drives) 24x IDE (ATAPI) CD-ROM Drive (Low-Profile) 1.44 MB Floppy Rack (1U), (1.75 in/4.45 cm)</p>
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<p><b>DL320R02 P2.26-512 KB, 128 MB, ATA without CD/Floppy</b> 289349-001</p>	<p><b>Processor(s)</b> <b>Cache Memory</b> <b>Memory</b></p> <p><b>Network Controller</b> <b>Storage Controller</b> <b>Hard Drives</b> <b>Internal Storage</b> <b>Optical Drive</b> <b>Diskette Drive</b> <b>Form Factor</b></p>	<p>Intel Pentium 4 - 2.26-GHz (FC-PGA) Processor standard 512-KB level 2 cache 128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory Two - NC7760 PCI Gigabit Server Adapters (embedded) Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1 None ship standard 274-GB maximum (with optional hard drives) Optional Optional Rack (1U), (1.75 in/4.45 cm)</p>
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<p><b>DL320R02 P2.26-512 KB, 128 MB, ATA 80 GB with CD/Floppy</b> 289349-002</p>	<p><b>Processor(s)</b> <b>Cache Memory</b> <b>Memory</b></p> <p><b>Network Controller</b> <b>Storage Controller</b> <b>Hard Drives</b> <b>Internal Storage</b> <b>Optical Drive</b> <b>Diskette Drive</b> <b>Form Factor</b></p>	<p>Intel Pentium 4 - 2.26-GHz (FC-PGA) Processor standard 512-KB level 2 cache 128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory Two - NC7760 PCI Gigabit Server Adapters (embedded) Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1 One 80-GB Ultra ATA/100 7,200 rpm non-hot plug 1" drive 274-GB maximum (with optional hard drives) 24x IDE (ATAPI) CD-ROM Drive (Low-Profile) 1.44 MB Floppy Rack (1U), (1.75 in/4.45 cm)</p>
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### Options

<b>ProLiant DL320 Unique Options</b>	DL320 G2 Slotless SCSI module with cable	283533-B21
	CD-RW/DVD-ROM/Floppy Combo Option kit	343791-B21
<b>ProLiant Essentials Value Pack Software</b>	Rapid Deployment Pack, 1 User, V1.x	267196-B21
	<b>NOTE:</b> This license allows 1 server to be managed and deployed via the Deployment Server. <b>NOTE:</b> Rapid Deployment pack is now available in Linux only environments.	
	Rapid Deployment Pack, 10 Users, V1.x	269817-B21
	<b>NOTE:</b> This license allows 10 servers to be managed and deployed via the Deployment Server. <b>NOTE:</b> Rapid Deployment pack is now available in Linux only environments.	
	Flexible Quantity License Kit	302127-B21
	License-Only - for use with a Master License Agreement	302128-B21
	ProLiant Essentials Workload Management Pack (Featuring Compaq Resource Partitioning Manager version 2.0)	303284-B21
	Performance Management Pack, single server	306696-B21
	<b>NOTE:</b> This license allows 1 server to be managed by Performance Management Pack.	
	Performance Management Pack, flexible license kit	306697-B21
<b>NOTE:</b> A single pack is shipped with a single license key for the total number of licenses ordered <b>NOTE:</b> Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to <a href="http://www.hp.com/servers/proliantessentials">http://www.hp.com/servers/proliantessentials</a> or the various ProLiant Essentials Value Pack product QuickSpecs for more information. <b>NOTE:</b> For more information regarding ProLiant Essentials Software, please see the following URL: <a href="http://www.hp.com/servers/proliantessentials">http://www.hp.com/servers/proliantessentials</a> .		
<b>Memory (DIMMs)</b>	1024-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287497-B21
	512-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287496-B21
	256-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287495-B21
	128-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287494-B21
<b>Internal Storage</b>	CD-ROM/Diskette Drive Assembly Option Kit	301048-B21
	CD-RW/DVD-ROM/Floppy Combo Option kit	343791-B21
	DVD-ROM/Diskette Drive Assembly Option Kit	268494-B21
	ProLiant DL320 Wide Ultra3 SCSI Cable Option Kit	212690-B21
	<b>NOTE:</b> The SCSI Cable Option Kit (212690-B21) is required if you are adding PCI SCSI or Array card.	
	DL320 G2 Slotless SCSI module with cable	283533-B21

### Options

#### Hard Drives

##### Wide Ultra320 – Universal Non-Hot Plug

36.4GB 10,000 rpm, U320 Non-Hot Plug Hard Drive, 1" 271832-B21

72-GB 10,000 rpm, U320 Non-Hot Plug Hard Drive, 1" 332751-B21

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

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

##### U320 Hard Drive QS:

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

##### SCSI Hard Drive QS:

[http://h18000.www1.hp.com/products/quickspecs/10260\\_na/10260\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10260_na/10260_na.HTML)

##### ATA100 Hard Drive QS:

[http://h18000.www1.hp.com/products/quickspecs/11361\\_na/11361\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11361_na/11361_na.HTML)

##### ATA/100 – Non-Hot Plug

160-GB ATA 100 7,200 RPM Hard Drive (1")\* 366486-B21

80-GB ATA/100 7,200 rpm Drive (1") 278424-B21

40-GB ATA/100 7,200 rpm Drive (1") 230534-B21

**\*NOTE:** ATA controller will only recognize 137GB of a 160GB HDD.

#### Storage Controllers

Smart Array 532 Controller 225338-B21

**NOTE:** Supports Wide Ultra2/3 SCSI drives only. If cabling to internal drives, you must first disable the integrated controller module, and use the Wide Ultra3 SCSI cable option kit 212690-B21.

Smart Array 5304/256 Controller 283551-B21

**NOTE:** Supports Wide Ultra2/3 SCSI drives only. If cabling to internal drives, you must first disable the integrated controller module, and use the Wide Ultra3 SCSI cable option kit 212690-B21.

Smart Array 641 Controller 291966-B21

Smart Array 642 Controller 291967-B21

256-MB Battery-Back Cache Module 254786-B21

**NOTE:** This 256-MB Battery-Backed Cache Module supports the Smart Array 5300 series controllers, HP StorageWorks Modular Smart Array 1000 and the HP StorageWorks Modular Smart Array 500

64 MB Battery Backed Write Cache Enabler 291969-B21

**NOTE:** This 64 MB BBWC supports the Smart Array 641 Controller and Smart Array 642 Controller.

64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter 268351-B21

**NOTE:** Supports Wide Ultra3, Ultra320 SCSI drives only. If cabling to internal drives, you must first remove the integrated controller module. ATA models require the Wide Ultra3 SCSI cable option kit 212690-B21.

**NOTE:** This adapter will run at 33-MHz speeds due to the 33-MHz PCI Bus.

64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS 284688-B21

**NOTE:** Supports Wide Ultra3, Ultra320 SCSI drives only. If cabling to internal drives, you must first remove the integrated controller module. ATA models require the Wide Ultra3 SCSI cable option kit 212690-B21.

**NOTE:** This adapter will run at 33-MHz speeds due to the 33-MHz PCI Bus.

**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/10851\\_na/10851\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10851_na/10851_na.HTML) (Smart Array 532)

[http://h18000.www1.hp.com/products/quickspecs/10640\\_na/10640\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10640_na/10640_na.HTML) (Smart Array 5300 Series)

[http://h18000.www1.hp.com/products/quickspecs/11563\\_na/11563\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11563_na/11563_na.HTML) (Smart Array 641)

[http://h18000.www1.hp.com/products/quickspecs/11563\\_na/11563\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11563_na/11563_na.HTML) (Smart Array 642)

[http://h18000.www1.hp.com/products/quickspecs/10429\\_na/10429\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10429_na/10429_na.HTML) (SCSI Adapter)

[http://h18000.www1.hp.com/products/quickspecs/11555\\_na/11555\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11555_na/11555_na.HTML) (U320 Adapter)

### Options

<b>Communications</b>	NC3123 Fast Ethernet NIC PCI 10/100 WOL	174830-B21
	NC6170 Dual Port PCI-X 1000SX Gigabit Server Adapter	313879-B21
	NC6770 PCI-X Gigabit Server Adapter, 1000-SX	244949-B21
	NC7170 Dual Port PCI-X 1000T Gigabit Server Adapter	313881-B21
<b>NOTE:</b> Any NC61XX, NC71XX or NC77XX NIC can be used for redundancy with the embedded NC7760 Network Controller.		

<b>Management Options</b>	Remote Insight Lights-Out Edition II	227251-001
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<b>Security</b>	HP/Atalla AXL600L SSL Accelerator Card for ProLiant Servers	524545-B21
	Compaq AXL300 Accelerator PCI Card (HW SSL Encryption) for ProLiant Servers	227933-B21

### Tape Drives

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

#### External, Rack-Mount, and Array Module Ultrium Tape Drives

HP StorageWorks Ultrium 215 Tape Drive, External (Carbon)	Q1545A
HP StorageWorks Ultrium 215 rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350544-B21
HP StorageWorks Ultrium 215 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7492B
HP StorageWorks Ultrium 230 Tape Drive, External (Carbon)	Q1517A
HP StorageWorks Ultrium 230, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350545-B21
HP StorageWorks Ultrium 230 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7470B
HP StorageWorks Ultrium 460 Tape Drive, External (Carbon)	Q1520A
HP StorageWorks Ultrium 460, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350546-B21
HP StorageWorks Ultrium 460 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	Q1512B

**NOTE:** Please see the HP StorageWorks Ultrium 215, 230, and 460 Tape Drive QuickSpecs for additional options such as controllers, media, and other related items:

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

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>

#### External and Array Module DAT Drives

HP StorageWorks DAT 72 Tape Drive, External (Carbon)	Q1523A
HP StorageWorks DAT 72 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	Q1524B
HP StorageWorks DAT 40 Tape Drive, External (Carbon)	C5687C
HP StorageWorks DAT 40 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7497B
HP StorageWorks DAT 24e Tape Drive, External (Flint)	C1556D
HP StorageWorks DAT 24 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7498A

**NOTE:** Please see the DAT Tape Drive QuickSpecs for controllers, media, and other options:

[http://h18000.www1.hp.com/products/quickspecs/11883\\_na/11883\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/11883_na/11883_na.HTML)

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

#### External DLT VS Tape Drive

HP StorageWorks DLT VS80 Tape Drive, External (Carbon)	337699-B22
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**NOTE:** Please see the DLT VS80 Tape Drive QuickSpecs for additional options such as host bus adapters, controllers, media, and other options:

[http://h18006.www1.hp.com/products/quickspecs/11403\\_na/11403\\_na.HTML](http://h18006.www1.hp.com/products/quickspecs/11403_na/11403_na.HTML)

For an up-to-date listing of the latest O/S and software support details for the DLT VS80, please visit: <http://www.hp.com/go/connect>

#### External SDLT Tape Drive

### Options

HP StorageWorks SDLT 320 Tape Drive, External (Carbon)	257319-001
<p><b>NOTE:</b> Please see the SDLT 320 Tape Drive QuickSpecs for additional options such as adapters, controllers, and media.</p> <p><a href="http://h18006.www1.hp.com/products/quickspecs/11406_na/11406_na.HTML">http://h18006.www1.hp.com/products/quickspecs/11406_na/11406_na.HTML</a></p> <p>For an up-to-date listing of the latest O/S and software support details for HP SDLT tape drives, please visit: <a href="http://www.hp.com/go/connect">http://www.hp.com/go/connect</a></p>	
<b>Rack-Mount Tape Drive Enclosures</b>	
HP StorageWorks 3U Rack-Mount Kit	274338-B21
<p><b>NOTE:</b> 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, DLT VS80, SDLT 320, Ultrium 215, Ultrium 230, and Ultrium 460 Tape Drives.</p>	
HP StorageWorks 5U Rack-Mount Kit	274339-B21
<p><b>NOTE:</b> The 5U Rack-Mount Kit can support up to 4 full-height tape drives and is compatible with SDLT 320, Ultrium 230, and Ultrium 460 tape drives.</p> <p><b>NOTE:</b> Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits:</p> <p><a href="http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML">http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML</a></p>	
HP StorageWorks Tape Array 5300	C7508A
<p><b>NOTE:</b> The Tape Array 5300 is a 3U enclosure that supports up to 2 full-height or 4 half-height hot-swap array modules, including DAT and Ultrium tape drives. Cables and terminators are not included and must be ordered separately.</p> <p><b>NOTE:</b> Please see the Tape Array 5300 QuickSpecs for additional information regarding this product.</p> <p><a href="http://h18000.www1.hp.com/products/quickspecs/11878_na/11878_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11878_na/11878_na.HTML</a></p>	
<b>Accessories for 3U &amp; 5U Rack-mount Tape Drive Kits</b>	
LVD Cable Kit, VHDCI/HD68	168048-B21
<b>NOTE:</b> For use with the 3U Rackmount Kit and 5U Rackmount Kit only.	
LVD Cable Kit, HD68/HD68	242381-B21
<b>NOTE:</b> For use with the 3U Rackmount Kit and 5U Rackmount Kit only.	
<b>Accessories for 3U &amp; 5U Rack-mount Tape Drive Kits</b>	
<i>PSU/Fan Upgrade Kit - Redundant hot-swap power supply unit and fan for Tape Array 5300.</i>	
68-pin HD multi-mode terminator	C2364A
1.0m 68-pin VHDCI to 68-pin HD cable	C2361B
2.5m 68-pin VHDCI to 68-pin HD cable	C2362B
5.0m 68-pin VHDCI to 68-pin HD cable	C2365A
10.0m 68-pin VHDCI to 68-pin HD cable	C2363B
0.5m 68-pin HDI to 68-pin HD cable LVD/SE	C2978B
1.5m 68-pin HDI to 68-pin HD cable LVD/SE	C2979B
0.9m 68-pin HDI to 68-pin HD cable LVD/SE	C2911C
2.5m 68-pin HDI to 68-pin HD cable LVD/SE	C2924C
<b>NOTE:</b> For use with Tape Array 5300 only	

### Options

#### Tape Autoloaders

##### DAT Autoloaders

HP StorageWorks DAT 40x6 Tape Autoloader, External (Flint) C5717C

**NOTE:** Please see the DAT 40x6 Tape Autoloader QuickSpecs at <http://www.hp.com/go/tape> for additional options such as host bus adapters, controllers and media.

##### HP StorageWorks 1/8 Tape Autoloader

1/8 Ultrium 460 Tape Autoloader, Tabletop AA927A

1/8 SDLT 320 Tape Autoloader, Tabletop AA926A

1/8 Ultrium 230 Tape Autoloader, Tabletop C9572CB

1/8 DLT VS80 Tape Autoloader, Tabletop C9264CB

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>

##### HP StorageWorks SSL1016 Tape Autoloader

SSL1016 Ultrium 460 Tape Autoloader 330821-B21

SSL1016 SDLT 320 Tape Autoloader 330816-B21

**NOTE:** Please reference the SSL1016 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 MSL6000 Tape Library

MSL6030, 1 drive, 30 slots, Ultrium 460, rackmount 330731-B22

MSL6030, 2 drive, 30 slots, Ultrium 460, rackmount 330731-B23

MSL6030, 1 drive, 30 slots, Ultrium 460, rackmount with embedded FC router 330731-B24

MSL6030, 2 drive, 30 slots, Ultrium 460, rackmount with embedded FC router 330731-B25

MSL6030, 1 drive, 30 slots, Ultrium 460, tabletop 330788-B21

MSL6030, 2 drive, 30 slots, Ultrium 460, tabletop 330788-B22

MSL6060, 2 drive, 60 slot, Ultrium 460, rackmount 331196-B21

MSL6060, 2 drive, 60 slot, Ultrium 460, rackmount with embedded FC router 331196-B22

MSL6060, 2 drive, 60 slot, Ultrium 460, tabletop 331195-B21

**NOTE:** Please reference the 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 MSL5026S2 Tape Library

MSL5026S2, 1 drive, 26 slots, SDLT 320, rackmount 293472-B22

MSL5026S2, 2 drive, 26 slots, SDLT 320, rackmount 293472-B23

MSL5026S2, 1 drive, 26 slots, SDLT 320, rackmount with embedded FC router 293472-B24

MSL5026S2, 2 drive, 26 slots, SDLT 320, rackmount with embedded FC router 293472-B25

MSL5026S2, 1 drive, 26 slots, SDLT 320, tabletop 293473-B21

MSL5026S2, 2 drive, 26 slots, SDLT 320, tabletop 293473-B22

**NOTE:** Please reference the MSL5026S2 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 MSL5052S2 Tape Library

MSL5052S2, 2 drive, 52 slots, SDLT 320, rackmount 293474-B21

MSL5052S2, 2 drive, 52 slots, SDLT 320, rackmount with embedded FC router 293474-B24

MSL5052S2, 2 drive, 52 slots, SDLT 320, tabletop 293476-B21

**NOTE:** Please reference the MSL5052S2 Tape Library QuickSpecs at

<http://www.hp.com/go/automation> for additional information needed to create a complete solution;

### Options

reference current compatibility information at <http://www.hp.com/go/ebs>

#### HP StorageWorks MSL5030 Tape Library

MSL5030, 1 drive, 30 slots, Ultrium 230, rackmount	301897-B22
MSL5030, 2 drive, 30 slots, Ultrium 230, rackmount	301897-B23
MSL5030, 1 drive, 30 slots, Ultrium 230, rackmount with embedded FC router	301897-B24
MSL5030, 2 drive, 30 slots, Ultrium 230, rackmount with embedded FC router	301897-B25
MSL5030, 1 drive, 30 slots, Ultrium 230, tabletop	301898-B21
MSL5030, 2 drive, 30 slots, Ultrium 230, tabletop	301898-B22

**NOTE:** Please reference the MSL5030 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 MSL5060 Tape Library

MSL5060, 2 drive, 60 slots, Ultrium 230, rackmount	301899-B22
MSL5060, 2 drive, 60 slots, Ultrium 230, rackmount with embedded FC router	301899-B23
MSL5060, 2 drive, 60 slots, Ultrium 230, tabletop	301900-B21

**NOTE:** Please reference the MSL5060 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 ESL E-Series Tape Libraries

ESL Extended 712e Tape Library, 0 drive, 712 LTO slots	AA934A
ESL Extended 630e Tape Library, 0 drive, 630 SDLT slots	AA935A
ESL E Ultrium 460 drive kit	AA937A
ESL E SDLT 320 drive kit	AA936A

**NOTE:** Please reference the ESL E-Series Tape Libraries 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 ESL9000 Series Tape Libraries

ESL9595 Extended Tape Library, 0 drive, 400 slots (can scale to 595 slots; includes card cage, Interface Mgr card, Command View license)	343378-B21
ESL9322 Extended Tape Library, 0 drive, 222 slots (can scale to 322 slots; includes card cage, Interface Mgr card, Command View license)	343377-B21
ESL9000 Ultrium 460 drive kit	330834-B21
ESL9000 Ultrium 230 drive kit	301930-B21
ESL9000 SDLT 320 drive kit	293414-B21

#### Magento-Optical Jukeboxes

#### HP StorageWorks 9.1 GB Entry-level Optical Storage

9100mx standalone drive	C1114M
220mx, 1 drive, 24 slot jukebox	C1118M
220mx, 2 drive, 24 slot jukebox	C1119M

**NOTE:** Please reference the Magento-Optical Jukebox data sheets at <http://www.hp.com/go/optical> for additional information needed to create a complete solution.

#### External Storage – Rack

Redundant Power Supply 499W	338296-B21
StorageWorks Enclosure 4200 Redundant Power Supply Option	338296-B21
StorageWorks Enclosure 4200 Ultra3 Single Bus I/O Module Option	190212-B21
StorageWorks Enclosure 4200 Ultra3 Dual Bus I/O Module Option	190213-B21
StorageWorks Enclosure 4200 Tower to Rack Conversion Kit	150213-B21

### Options

HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000	201723-B22
	Modular Smart Array 1000 Fabric Switch	218232-B21
<p><b>NOTE:</b> Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at <a href="http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML">http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML</a></p>		
StorageWorks Modular Array 8000	MA8000 60 Hz	175992-B21
	<p><b>NOTE:</b> Options include controller, solution kits, ACS. MA8000 includes controller shelf, drive shelves and cabinet. Packaging upgrade to RA8000.</p>	
	<p><b>NOTE:</b> Please see the StorageWorks MA8000 QuickSpecs for FC Hubs, FC switches, platform software, host adapters, disks and options for complete solutions at: <a href="http://h18000.www1.hp.com/products/quickspecs/10545_na/10545_na.HTML">http://h18000.www1.hp.com/products/quickspecs/10545_na/10545_na.HTML</a></p>	
UPS and PDU Power Cord Matrix	<p><i>Please see the UPS and PDU Power Cord Matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units.</i></p> <p><a href="ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf">ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf</a>.</p>	
Uninterruptible Power Systems – Rack UPSs	HP UPS R5500 XR, (5000VA, 4500 Watt), High Voltage	326529-D71
	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage	204404-001
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage	192186-002
	Rack-Mountable UPS R6000 (6000VA, 6000 Watt) High Voltage	347207-001
	<b>NOTE:</b> The UPS R6000 has a hardwired input.	
	HP UPS R12000 XR, N+x (12KVA, 12KW) High Voltage	207552-B22
<p><b>NOTE:</b> The UPS R12000 XR has a hardwired input and output</p> <p><b>NOTE:</b> UPS R6000 has a hardwired input; and the UPS R12000 XR has a hardwired input and output connection.</p>		
USB Options	USB Easy Access Keyboard (Carbonite/Silver)	DC168B#ABA
	USB Optical Scroll Mouse (Carbonite)	DD441B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
Custom Builder	<p>Please see the Enterprise Configurator for configuration assistance at: <a href="http://www.hp.com/products/configurator">http://www.hp.com/products/configurator</a>.</p>	
ProLiant DL320 Deployment Options	Rack Adapter Kit	332815-B21
	<b>NOTE:</b> This kit allows HP rack servers to fit in racks that are 24" wide.	
	Third Party Cabinet Rack Option	174574-B21
	Sliding Rails and Cable Management Solution Option	174575-B21
	Telco Rack Option	174576-B21

### Options

<b>HP Rack 10000 Series</b> (Graphite Metallic)	HP S10614 (14U) Rack Cabinet – Shock Pallet	292302-B22
	HP 10842 (42U, 800mm wide) Rack Cabinet – Pallet	257415-B21
	HP 10842 (42U, 800mm wide) Rack Cabinet – Shock Pallet	257415-B22
	HP 10647 (47U) Rack Cabinet – Pallet	245160-B21
	HP 10647 (47U) Rack Cabinet – Shock Pallet	245160-B23
	HP 10642 (42U) Rack Cabinet – Pallet	245161-B21
	HP 10642 (42U) Rack Cabinet – Shock Pallet	245161-B22
	HP 10642 (42U) Rack Cabinet – Crated	245161-B23
	HP 10636 (36U) Rack Cabinet – Pallet	245162-B21
	HP 10636 (36U) Rack Cabinet – Shock Pallet	245162-B22
	HP 10636 (36U) Rack Cabinet – Crated	245162-B23
	HP 10622 (22U) Rack Cabinet – Pallet	245163-B21
	HP 10622 (22U) Rack Cabinet – Shock Pallet	245163-B22
	HP 10622 (22U) Rack Cabinet – Crated	245163-B23

**NOTE:** -B21 (pallet) used to ship empty racks shipped on a truck

-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels)

-B23 (crated) used for air shipments of empty racks

**NOTE:** It is mandatory to use a shock pallet in order to ship racks with equipment installed.

**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\\_na/10995\\_na.HTML](http://h18000.www1.hp.com/products/quickspecs/10995_na/10995_na.HTML)

**NOTE:** For additional information regarding Rack Cabinets, please see the following URL:

<http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html>.

### Options

<b>Rack Options for HP Rack 10000 Series</b>	42U Side Panel – Graphite Metallic	246099-B21
	36U Side Panel – Graphite Metallic	246102-B21
	47U Side Panel – Graphite Metallic	255486-B21
	<b>NOTE:</b> For additional information regarding Rack Options, please see the following URL: <a href="http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html">http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html</a> .	
	KVM USB Interface Adapter	336047-B21
	Server Console Switch 1 x 4 port (100-230 VAC)	400336-001
	Server Console Switch, 0 x 1 x 8 port	336044-B21
	Server Console Switch, 0 x 2 x 16 port	336045-B21
	IP Console Switch Box, 1 x 1 x 16	262585-B21
	IP Console Switch Box, 3 x 1 x 16	262586-B21
	IP Console Interface Adapter, 8 pack	262587-B21
	IP Console Interface Adapter, 1 pack	262588-B21
	IP Console Expansion Module	262589-B21
	CPU to Server Console Cable, 12'	110936-B21
	CPU to Server Console Cable, 3'	110936-B24
	CPU to Server Console Cable, 7'	110936-B25
	IP CAT5 Cable 3', 4 pack	263474-B21
	IP CAT5 Cable 6', 8 pack	263474-B22
	IP CAT5 Cable 12', 8 pack	263474-B23
	IP CAT5 Cable 20', 4 pack	263474-B24
	IP CAT5 Cable 40', 1 pack	263474-B25
	TFT5600 Rack Keyboard Monitor	221546-001
	1U Rack Keyboard & Drawer (Carbon)	257054-001
	<b>NOTE:</b> For additional information regarding Rack Options, please see the following URL: <a href="http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html">http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html</a> .	

### Options

#### HP Factory Express

#### Factory Installation, Racking, and Customization Services

Factory Express Server Configuration Level 1 293355-888

**NOTE:** Free Installation of HP Options - Installation of HP Options memory, NICs, hard drives, controllers, processors, I/O cards, pre-install standard OEM OS image, and tape drives. Installation fees will apply to all non-HP certified hardware and asset tags.

Factory Express Server Configuration Level 2 266326-888

**NOTE:** Includes Level 1 Customer Intent of a ProLiant server and options configuration, OS installation, custom image download, IP addressing, network setting, and custom packaging. Customer unique requirements (quick restore creation, cd duplication, test reports, real-time reporting of server MAC address, password, and RILOE). Customer access, validation and control through VPN (price/server).

Factory Express Rack Integration Level 3 with 1 - 3 servers or storage enclosures 325736-888

Factory Express Rack Integration Level 3 with 4 - 9 servers or storage enclosures 232539-888

Factory Express Rack Integration Level 3 with 10 or more servers or storage enclosures 325735-888

**NOTE:** Includes Level 1 Customer Intent for standard mounted servers and storage units plus standard cable mgmt, RAID configuration, servers & storage, power distribution, networking gear and accessories (price/rack).

**NOTE:** Available on ProLiant rack models only.

Factory Express Rack Integration Level 4 with 1 - 3 servers or storage enclosures 325734-888

Factory Express Rack Integration Level 4 with 4 - 9 servers or storage enclosures 232540-888

Factory Express Rack Integration Level 4 with 10 or more servers or storage enclosures 325733-888

**NOTE:** Includes Level 2 Customer Intent plus customer defined cable management and naming convention, customer furnished image download, IP addressing, cluster configurations (SQL, External storage RAID). Quick restore creation, cd duplication, test reports, real-time reporting of server MAC address, password, RILOE). Customer access and validation through VPN (price/rack).

**NOTE:** Available on ProLiant rack models only.

Factory Express Rack Integration Level 5 with 1 - 3 servers or storage enclosures 325732-888

Factory Express Rack Integration Level 5 with 4 - 9 servers or storage enclosures 232541-888

Factory Express Rack Integration Level 5 with 10 or more servers or storage enclosures 325731-888

**NOTE:** Includes Level 4 Customer Intent plus Custom SW layering and extended test, Customer access, validation and control through VPN, Clustered racks with networking gear and / or external storage array, Start-up installation services custom quote. (price/rack).

**NOTE:** Available on ProLiant rack models only.

**NOTE:** Factory Express Engineered Solution Level 6 is a custom solutions available through Factory Express. Please contact your local reseller or Account Manager.

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

#### Hardware Services On-site Service

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years (Canadian Part Number) FP-ELXEC-36

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years (U.S. Part Number) 102407-002

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years (Canadian Part Number) FP-EL3EC-36

4-Hour On-site Service, 5-Day x 13-Hour, 3 Years (U.S. Part Number) 331045-002

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years (Canadian Part Number) FP-EL7EC-36

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number) 162675-002

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years (Canadian Part Number) FP-ELCEC-36

6-Hour Call to Repair, On-site Service 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number) 331046-002

#### Installation & Start-up Services

Hardware Installation (Canadian Part Number) FP-ELINS-EC

Hardware Installation (U.S. Part Number) 401791-002

Installation & Start-Up of a ProLiant server and Microsoft O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (U.S. Part Number) 240013-002

Installation & Start-Up of a ProLiant server and Microsoft O/S per the Customer Description and/or FM-MSTEC-01

### Options

Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (Canadian Part Number)	
Installation & Start-Up of a ProLiant server and Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (U.S. Part Number)	331051-002
Installation & Start-Up of a ProLiant server and Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays. (Canadian Part Number)	FM-LSTEC-01
<b>Support Plus</b>	
Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (U.S. Part Number)	239928-002
Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (Canadian Part Number)	FM-M01E1-36
Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (U.S. Part Number)	331049-002
Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. (Canadian Part Number)	FM-L01E1-36
<b>Support Plus 24</b>	
Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (U.S. Part Number)	239930-002
Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (Canadian Part Number)	FM-M02E1-36
Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (U.S. Part Number)	331050-002
Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. (Canadian Part Number)	FM-L02E1-36
<b>HP Care Pack Priority Services for ProLiant Servers - Priority Silver</b>	
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, 1 System Healthcheck per year (2-5-2 Part Number for Canada)	FM-M04E1-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (2-5-2 Part Number for Canada)	FM-M24E1-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review (2-5-2 Part Number for Canada)	FM-N04E1-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Novell NetWare Operating System (2-5-2 Part Number for Canada)	FM-N24E1-36
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System, Technical Account Manager, Technical Newsletter, SW activity review, proactive patch notification, 1 System Healthcheck per year (6-3 Part Number for U.S.)	239932-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Windows NT, Windows 2000, Professional, Server or Advanced Server Operating System (6-3 Part Number for U.S.)	239934-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Software Support, 1-hr response, Monday - Friday, 8AM - 5PM local time, 2-hr response after hours for Novell NetWare Operating System, Technical Account Manager, Technical Newsletter, SW activity review (6-3 Part Number for U.S.)	239972-002
24 x 7 HW, 4-hr response, Named HW engineer; 24 x 7 Silver Subsequent System Support for Novell NetWare Operating System (6-3 Part Number for U.S.)	239974-002

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

### Memory

#### HP ProLiant DL320 G2 All Models

##### Standard Memory

128-MB PC2100 Registered ECC DDR SDRAM DIMM Memory installed (1 x 128-MB SDRAM DIMM)

##### Standard Memory Plus Optional Memory

Up to 3200-MB memory is available with the optional installation of PC2100 Registered ECC DDR SDRAM DIMM Memory kits.

##### Standard Memory Replaced with Optional Memory

Up to 4096-MB of memory is available with the removal of the standard 128-MB of memory and the optional installation of PC2100 Registered ECC DDR SDRAM DIMM Memory kits.

**NOTE:** Chart does not represent all possible configurations.

Memory		Slot			
		1	2	3	4
Standard	128 MB	Empty	Empty	Empty	128 MB
Optional	3,200 MB	1024 MB	1024 MB	1024 MB	128 MB
Maximum	4,096 MB	1024 MB	1024 MB	1024 MB	1024 MB

Following are memory options available from HP:

- 1024-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit 287497-B21
- 512-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit 287496-B21
- 256-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit 287495-B21
- 128-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit 287494-B21

### Storage



- 0 - 1 Two 3.5" x 1" ATA non-hot plug drive bays
- A Removable CD-ROM/Diskette Drive Assembly

### Drive Support

#### Removable Media

	Quantity Supported	Position Supported	Controller
1.44-MB Diskette Drive	Up to 1	A	Integrated
Low-profile IDE (ATAPI) CD-ROM Drive	Up to 1	A	Integrated IDE (ATAPI)
Low-profile IDE DVD-ROM Drive	Up to 1	A	Integrated IDE

#### Hard Drives

##### Wide Ultra3 SCSI Non-Hot Plug Drives

	Quantity Supported	Position Supported	Controller
1-inch	Up to 2	0-1	Integrated Single Channel Wide Ultra2 Controller Module (SCSI Models) Smart Array 532 Controller Smart Array 5304/128 Controller Smart Array 5304/256 Controller 64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

##### ATA/100 Non-Hot Plug Drives

	Quantity Supported	Position Supported	Controller
1-inch	Up to 2	0-1	Integrated Ultra ATA/100 Controller Module (ATA Models)
160-GB 7,200 rpm			
80-GB 7,200 rpm			
40-GB 7,200 rpm			

## Storage

### External Storage

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

### Maximum Storage Capacity – (StorageWorks Enclosure 4300 with ATA models)

Internal	274 GB (2 x GB 1" ATA/100*)
External	509.6 GB (1 x (14 x 36.4-GB 1" Wide Ultra3 Drives))
Total	589.6 GB

\*NOTE: ATA controller will only recognize 137GB of a 160GB HDD.

### Storage

#### 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://www5.compaq.com/products/quickspecs/North\\_America/10233.html](http://www5.compaq.com/products/quickspecs/North_America/10233.html)

**NOTE:** For an up-to-date listing of the latest O/S Support details for each of the Tape Autoloaders & Tape Libraries listed below, please see the following:  
[http://www5.compaq.com/products/quickspecs/North\\_America/10809.html](http://www5.compaq.com/products/quickspecs/North_America/10809.html)

	Quantity Supported	Position Supported	Controller
Ultrium 215, External Ultrium 230, External Ultrium 460, External	Up to 2	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks DAT 72 Tape Drive, External HP StorageWorks DAT 40 Tape Drive, External HP StorageWorks DAT 24 Tape Drive, External	Up to 3	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks DLT VS80 Tape Drive, External	Up to 3	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks SDLT 320 Tape Drive, External	Up to 2	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks DAT 40x6 Tape Autoloader, External 1/8 Ultrium 460 Tape Autoloader 1/8 SDLT 320 Tape Autoloader 1/8 Ultrium 230 Tape Autoloader 1/8 DLT VS80 Tape Autoloader SSL1016 Ultrium 460 Tape Autoloader SSL1016 SDLT320 Tape Autoloader SSL1016 DLT1 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
MSL6000 (Ultrium 460 -based) Tape Library MSL5026S2 (SDLT 320-based) Tape Library MSL5052S2 (SDLT 320-based) Tape Library MSL5030 (Ultrium 230 -based) Tape Library MSL5060 (Ultrium 230 -based) Tape Library	Please reference the MSL Tape Library QuickSpecs to determine configuration requirements	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
ESL Extended 712e ESL Extended 630e ESL9322 ETLA ESL9595 ETLA	Please reference the ESL E-Series and ESL9000 Series Tape Libraries QuickSpecs to determine configuration requirements	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

### TechSpecs

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	1.67 x 19.0 x 21.9 in (4.24 x 48.3 x 55.6 cm)
	<b>Weight</b>	24.58 lb (11.15 kg)
	Fully configured with two hard drives, four DIMM modules, and a PCI expansion board	
<b>Input Requirements (per power supply)</b>	Range Line Voltage	100 to 240 VAC
	Nominal Line Voltage	100 to 120 VAC/220 to 240 VAC
	Rated Input Current	3 A (100 to 120 VAC) to 1.5 A (200 to 240 VAC)
	Rated Input Frequency	50 to 60 Hz
<b>BTU Rating</b>	870 BTUs/hr	<b>NOTE:</b> The BTU Rating listed is for the Rated Input Power of 255W.
<b>Power Supply Output</b> Power (per power supply)	Steady State Power	180 W (rated) <b>NOTE:</b> The maximum expected steady state.
	Maximum Peak Power	200 W (2 minutes)
<b>Environmental Operating</b>		
<b>Operating</b>	Ambient Temperature	50° to 95° F (10° to 35° C)
	Temperature Derating	1.8° F per 984.25 ft to 9,842.5 ft (1° C per 300 m to 3000 m)
	Relative Humidity	10% to 90% (non-condensing)
	Maximum wet bulb temperature	82° F (28° C)
<b>Non-operating Storage</b>	Temperature	-4° to 140° F (-20 to 60° C)
	Relative Humidity	10% to 95%
	Maximum wet bulb temperature	84° F (29° C)
<b>Non-operating Shipping</b>	Temperature	-40° to 140° F (-40 to 60° C)
	Relative Humidity	10% to 90%
	Maximum wet bulb temperature	86° F (30° C)
<b>Acoustic Noise</b>	Idle (Fixed Disk Drives Spinning)	
	<b>L<sub>WAd</sub></b> (BELS)	6.1
	<b>L<sub>pAm</sub></b> (dBA)	54.1
	Operating (Random Seeks to Fixed Disks)	
	<b>L<sub>WAd</sub></b> (BELS)	6.2
	<b>L<sub>pAm</sub></b> (dBA)	52

### TechSpecs

<b>Non-Hot Plug ATA/100 Hard Drives</b>	<b>80 GB 7.2K 278424-B21</b>	<b>Capacity</b> <b>Height</b> <b>Width</b> <b>Interface</b> <b>Transfer Rate</b> Synchronous (Maximum) <b>Seek Time</b> (typical reads, including settling) <b>Physical Configuration</b> <b>Operating Temperature</b>	80054 MB 1.0 in (2.54 cm) 4.0 in (10.16 cm) ATA 100 100 MB/s Single Track            0.8 ms Average                    8.5 ms Full-Stroke                17.8 ms Rotational Speed         7,200 rpm Bytes/Sector              512 Logical Blocks            156,355,584 41° to 131° F (5° to 55° C)
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<b>Power Supply</b>	<b>Input voltage specifications</b> <b>Input Specifications</b>  <b>Relative humidity</b> (non-condensing)  <b>Dielectric voltage withstand</b>  <b>Maximum Wet Bulb Temperature</b>	Rated input voltage Rated input line Frequency range Rated input power Rated input current Steady state power Maximum peak power Ambient temperature range Operating Non-operating Operating Non-operating Input to output Input to ground 80/80	100 VAC to 240 VAC 180 VAC to 264VAC (90 VAC to 132 VAC) 47 to 63 Hz 298 W 3.3 A, 1.7 A (110 V, 220 V) 180W 200W for 2 minutes 20 ms from zero crossing at 120 VAC 41° to 122° F (5° to 50° C) -40° to 185° F (-40° to 85° C) 5% to 95% 5% to 95% 3,000 VAC/minute 1500 VAC/minute 82° F (28° C)
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### TechSpecs

<b>Low-Profile 24X Max IDE (ATAPI) CD-ROM Drive</b>	<b>Disk</b>	<b>Applicable Disk</b>	CD-DA, CD-ROM (Mode 1 and 2) CD-XA, CD-I (Mode 2, Form 1 and 2) CD-I Ready, CD Extra, Video CD, CD-Bridge Photo CD (Single and Multi-session) CD-WO
		<b>Capacity</b>	550 MB (Mode 1, 12 cm) 640 MB (Mode 2, 12 cm)
		<b>Diameter</b>	4.7 in, 3.15 in/12 cm, 8 cm
		<b>Rotational Speed</b>	4200 rpm maximum
		<b>Center Hole</b>	0.6 in/15 mm diameter
		<b>Thickness</b>	1.2 mm
		<b>Track Pitch</b>	1.6 $\mu$ m
	<b>Block Size</b>	<b>Mode 0</b>	2,368, 2,352 bytes
		<b>Mode 1</b>	2,352, 2,340, 2,336, 2,048 bytes
		<b>Mode 2</b>	2,352, 2,340, 2,336, 2,048 bytes
	<b>Interface</b>	<b>IDE (ATAPI)</b>	
	<b>Access Times (typical)</b>	<b>Random</b>	<150 ms
		<b>Full-Stroke</b>	<350 ms
	<b>Data Transfer Rate</b>	<b>Sustained</b>	150 KB/s (sustained 1X)
		<b>Burst</b>	2100 to 4800 KB/s
	<b>Cache Buffer</b>	<b>128 KB</b>	
	<b>Start-up Time (typical)</b>	<b>&lt; 10 seconds</b>	
	<b>Stop Time</b>	<b>&lt; 5 seconds</b>	
	<b>Operating Conditions</b>	<b>Temperature</b>	41° to 118° F (5° to 45° C)
		<b>Humidity</b>	10% to 80%
	<b>Dimensions</b>	<b>(HxWxD, maximum)</b>	0.5 x 5.12 x 5.16 in (1.27 x 13 x 13.1 cm)
		<b>Weight</b>	<11.98 oz (<340 g)

### TechSpecs

<b>Two NC7760 PCI Gigabit Server Adapters (embedded)</b>	<b>Network Interface</b>	10Base-T/ 100Base-TX/ 1000Base-TX	
	<b>Compatibility</b>	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 80.3u 100Base-TX	
	<b>Data Transfer Method</b>	32-bit bus-master PCI	
	<b>Network Transfer Rate</b>	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	1000Mb/s
	<b>Connector</b>	RJ-45	
	<b>Cable Support</b>	10Base-T 10/100/1000Base-TX	Categories 3, 4 or 5 UTP; up to 328 ft (100 m) Category 5 UTP; up to 328 ft (100 m)

<b>Video Controller</b>	<b>Controller Chip</b>	ATI RAGE XL
	<b>Video DRAM</b>	8 MB Video SDRAM
	<b>Data Transfer Method</b>	32-bit PCI
	<b>Support Resolution</b>	Supported Color Depths:
	640 x 480	16.7M, 64K, 256, 16
	800 x 600	16.7M, 64K, 256, 16
	1024 x 768	16.7M, 64K, 256, 16
	1152 x 864	16.7M, 64K, 256, 16
	1280 x 1024	16.7M, 64K, 256, 16
	1600 x 1200	64K, 256, 16
	<b>Connector</b>	VGA

### TechSpecs

<b>Integrated Dual Channel Ultra ATA/100 Controller Module</b>	<b>Temperature Range</b>	Operating	32° to 158° F (0° to 70° C)
		Shipping	-40° to 257° F (-40° to 125° C)
	<b>Relative humidity (non- condensing)</b>	Operating	10% to 90%
		Non-operating	5% to 95%
	<b>Simultaneous drive transfer channels</b>	2 channels	
	<b>Transfer rate synchronous (maximum)</b>	100 B/s	
	<b>Data transfer method</b>	32-bit PCI bus-master	
	<b>Drive support</b>	Ultra ATA, EIDE & Fast ATA-2	
	<b>PCI bus transfer rate (maximum)</b>	133 MB/s	
	<b>Data transfer modes</b>	UDMA Mode[0-5] PIO Mode[0-4]	
	<b>Protocol</b>	ATA100 compatible	
	<b>Feature</b>	CRC (Cyclical Redundancy Check)	
	<b>Buffer size</b>	128 Byte	

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