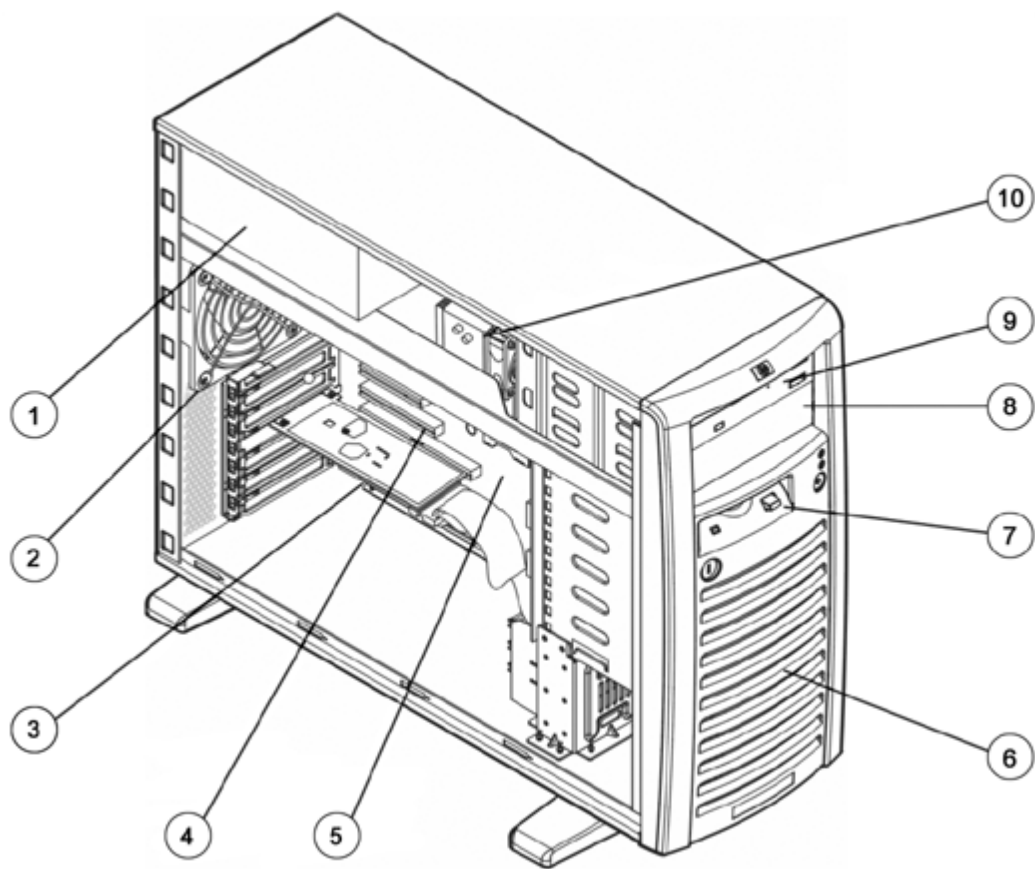


Overview



1. Power Supply

2. System Fan

3. SCSI or SATA Adapter, depending upon model

4. Six PCI Slots (PCI-X or PCI-Express)

5. Main System Board

6. Six 1" Drive Bays

7. 1.44 MB Diskette Drive

8. One Removable Media Bay (1.6")

9. 48x CD-ROM

10. Intel® Xeon processor with 1 or 2-MB level 2 cache

What's New

- Intel Xeon 2.8 GHz, 3.0 GHz or 3.2 GHz processors with 1MB L2 cache; or 3.0 GHz or 3.2 GHz processors with 2MB L2 cache, dual processor capability.
- 800-MHz Front Side Bus
- PC2700 DDR SDRAM memory (expandable to 8GB)
- PCI-X and PCI-Express expansion slots (one legacy PCI slot)

Overview

At A Glance

- Intel® Xeon 2.8 GHz, 3.0 GHz or 3.2 GHz processors with 1-MB level 2 cache or 3.0 GHz or 3.2 GHz processors with 2-MB level 2 cache standard (dual processor capability). Processors include support for Hyper-Threading and Extended Memory 64 Technology (EM64T)
- Intel® E7320 chipset
- 800-MHz Front Side Bus
- 512 MB of PC2700 DDR SDRAM standard (expandable to 8GB)
- Optional HP ProLiant ML150 G2 Lights-Out 100 Remote Management Card allows you to manage server remotely
- Single PCI-Express Gigabit NIC (embedded)
- Slot-based Single Channel Ultra320 SCSI Adapter or 4 port SATA Adapter (depending upon model)
- Support for up to 6 Ultra320 SCSI hard drives
- Support for up to 6 SATA hard drives with optional 6 Port SATA RAID Controller
- Internal U320 SCSI storage capacity of up to 880.8 GB (6 x 146.8 GB 1" SCSI drives)
- Internal SATA storage capacity of up to 1 TB (4 x 250 GB 1" SATA drives) or up to 1.5 TB (6 X 250 GB 1" SATA drives) with optional 6 Port SATA RAID Controller
- Six expansion slots: four 64-bit/66-MHz PCI-X (3 available), one x4 PCI-Express, and one 32-bit/33MHz PCI
- Two rear USB 2.0 ports
- Tool-free chassis entry and component access
- Integrated ATI Rage XL with 8MB SDRAM video
- 600W Non-Hot Plug Power Supply
- Supports the HP External Backup Solution by Seagate for simple external backup
- Protected by HP Services, including a one-year limited warranty.
- Backed by HP's world class service and support, the ProLiant ML150 G2 offers expertise and capabilities from a best-in-class brand
- With room for two Xeon processors, six I/O adapter cards, six hard disk drives, and four memory slots, the ProLiant ML150 G2 expands with your business
- An entry level, (5U) tower server that delivers a balance of performance, manageability, and expandability at an aggressive price

Standard Features

Processor NOTE: One of the following depending on Model	Intel Xeon Processor 3.2 GHz/800 -1 MB L2		
	Intel Xeon Processor 3.0 GHz/800 -1 MB L2		
	Intel Xeon Processor 2.8 GHz/800 -1 MB L2		
	Intel Xeon Processor 3.0 GHz/800 -2 MB L2		
	Intel Xeon Processor 2.8 GHz/800 -2 MB L2		
<hr/>			
Cache Memory	Integrated 1MB or 2MB level 2 cache (Depending on model)		
<hr/>			
Upgradeability	Upgradeable to dual processing		
<hr/>			
Chipset	Intel® E7320 Chipset with 800-MHz Front Side Bus		
<hr/>			
Memory	Type	PC2700 DDR SDRAM (333MHz)	
	Standard / Max	512 MB / 8 GB	
<hr/>			
Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)		
<hr/>			
Expansion Slots	I/O (6 Total, 5 Available)	PCI Voltage:	
	64-bit/66MHz PCI-X	4 (3 available)	3.3 volts
	x 4 PCI-Express	1	3.3 volts
	32-bit/33Mhz PCI	1	5 volts
<hr/>			
Storage Controller NOTE: One of the following depending on Model	Single Channel Ultra320 SCSI Adapter in a PCI slot(SCSI Models)		
	4 port SATA Adapter in a PCI slot (SATA Model)		
<hr/>			
Storage	Diskette Drive	1.44 MB Diskette Drive	
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive	
	Hard Drives	36.4 GB 15,000 rpm hard drive included in non-hot plug SCSI models only	
	Maximum Internal Storage (Hot plug/Non-hot plug SCSI Models)	880.8 GB (6 x 146.8 GB 1" SCSI drives)	
	Maximum Internal Storage (hot plug SATA Models)	1.5 TB (6 X 250GB 1" SATA drives) with optional 6 Port SATA RAID Controller or 1 TB (4 x 250 GB 1" SATA drives) with standard controller	
<hr/>			

Standard Features

Interfaces	Parallel	1
	Serial	1
	Pointing Device (Mouse, PS2)	1
	Graphics	1
	Keyboard (PS2)	1
	USB	2
	Network RJ-45 (Ethernet)	1

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 ATI RAGE XL Video Controller with 8MB SDRAM Video Memory
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Form Factor	Tower (5U)
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Industry Standard Compliance	ACPI V1.0b compliant PCI 2.2 compliant PXE Support WOL Support Microsoft® Logo certifications Novell Logo certifications
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Manageability	Optional HP ProLiant ML150 G2 Lights-Out 100 Remote Management Card
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Security	Power-on password Setup password Diskette boot control
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Server Power Cords	One Lowline NEMA power cord
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Power Supply	600 Watts, non-hot plug, non-redundant
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System Fans	2 - Non-hot plug, Non-redundant system fans shipped standard
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Standard Features

OS Support

Microsoft Windows® 2000 Server
Microsoft Windows 2003 Server, Standard Edition
Microsoft Windows 2003 Server, Web Edition
Microsoft Small Business Server 2003
Microsoft Small Business Server 2003, Premium Edition
Novell NetWare 6.5
Novell NetWare SBS 6.5
Red Hat Enterprise Linux 3
Red Hat Enterprise Edition Linux 3 (64 Bit)
SuSE Linux Enterprise Server 9
SuSE Linux Enterprise Server 9 (64Bit)

NOTE: HP ProLiant ML150 G2 SATA models do not support Red Hat or SuSE Linux.

NOTE: For an up-to-date listing of the latest ML150 OS support matrix, please see:

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

NOTE: For an up-to-date listing of the latest drivers available for the HP server ML150, please see:

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

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 to meet customer needs. 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, EVA3000 & EVA5000, XP, rackable tape libraries and configurable network switches..

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

Service and Support

One-year limited warranty, including hardware diagnostic support, coverage of hard drives, memory and processor. 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 1 year parts, 1 year labor, 1-year on-site support (ROW)
Limited warranty included 3 years parts, 1 year labor, 1 year on-site support (AP Only)

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, 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.

Standard Features

- System Management, Performance Services and Mission Critical Support Solution

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

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

ML150T02 X3.2/800-2M HP-SCSI 380190-xx1	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)
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ML150T02 X3.2/800-2M NHP-SCSI36 380192-xx1	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	(1) 36.4 GB Ultra320 SCSI 15,000 rpm 1" Drive (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)
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ML150T02 X3.2/800-2M HP-SATA 380188-xx1	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported with optional 6 Port SATA RAID Controller; up to 4 supported in non-RAID SATA mode)
	Internal Storage	Maximum: 1 TB (4 x 250 GB 1" SATA drives) for SATA or 1.5 TB (6 X 250GB 1" SATA drives) with optional 6 Port SATA RAID Controller
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

Models

ML150T02 X3.2/800-1M HP-SCSI 372252-xx1	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

ML150T02 X3.2/800-1M NHP-SCSI36 372254-xx1	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	(1) 36.4 GB Ultra320 SCSI 15,000 rpm 1" Drive (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

ML150T02 X3.2/800-1M HP-SATA 372250-xx1	Processor	(1) Intel Xeon 3.2 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 4 supported)
	Internal Storage	1 TB (4 x 250 GB 1" SATA drives) maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

Models

ML150T02 X3.0/800-2M HP-SCSI 380189-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)
<hr/>		
ML150T02 X3.0/800-2M NHP-SCSI36 380191-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	(1) 36.4 GB Ultra320 SCSI 15,000 rpm 1" Drive (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)
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ML150T02 X3.0/800-2M HP-SATA 380187-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 2 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported with optional 6 Port SATA RAID Controller; up to 4 supported in non-RAID SATA mode)
	Internal Storage	Maximum: 1 TB (4 x 250 GB 1" SATA drives) for SATA or 1.5 TB (6 X 250GB 1" SATA drives) with optional 6 Port SATA RAID Controller
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

Models

ML150T02 X3.0/800-1M HP-SCSI 366360-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM drive
	Form Factor	Tower (5U)

ML150T02 X3.0/800-1M NHP-SCSI36 366362-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	Single Channel Ultra320 SCSI Adapter in a PCI slot
	Hard Drive	(1) 36.4 GB Ultra320 SCSI 15,000 rpm 1" Drive (up to 6 supported)
	Internal Storage	880.8 GB maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

ML150T02 X3.0/800-1M HP-SATA 366358-xx1	Processor	(1) Intel Xeon 3.0 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 4 supported)
	Internal Storage	1 TB (4 x 250 GB 1" SATA drives) maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM drive
	Form Factor	Tower (5U)

Models

ML150T02 X2.8/800-1M HP-SATA 366357-xx1	Processor	(1) Intel Xeon 2.8 GHz processor standard (up to 2 supported)
	Cache Memory	Integrated 1 MB Level 2 cache
	Memory	512 MB (Standard) to 8 GB (Maximum) PC2700 DDR SDRAM (333MHz)
	Network Controller	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	Storage Controller	4 port SATA Adapter in a PCI slot
	Hard Drive	None ship standard (up to 6 supported with optional 6 Port SATA RAID Controller; up to 4 supported in non-RAID SATA mode)
	Internal Storage	1 TB (4 x 250 GB 1" SATA drives) maximum
	Optical Drive	48x IDE (ATAPI) CD-ROM Drive
	Form Factor	Tower (5U)

Country Code Key	XX=00	NA
	XX=01	Australia
	XX=03	UK
	XX=04	Germany
	XX=05	France
	XX=20	BRZ
	XX=29	Japan
	XX=37	AP
	XX=42	Euro
	XX=AA	PRC

Configuration Information-Factory Integrated Models (North America only)

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

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

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

Step 1: Base Configuration (Select only one model from the following selections)

Models	HP ProLiant ML150 G2 Hot Plug SCSI Model (North America)	377880-405
	HP ProLiant ML150 G2 Non-hot Plug SCSI Model (North America)	377881-405
	HP ProLiant ML150 G2 Hot Plug SATA Model (North America)	377882-405
	Factory Integrated Models ship with:	
	Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)	
	1.44MB Diskette Drive	
	Single 600W Power Supply	
	Tower 5U Form Factor	

Step 2: Choose Required Options (Select at least one option from each category)

Processors	For single processor configuration choose:	
	X2.8/800-1M ML150G2 FIO	371541-L21
	X3.0/800-1M ML150G2 FIO	371542-L21
	X3.2/800-1M ML150G2 FIO	371543-L21
	X3.0/800-2M ML150G2 FIO	380528-L21
	X3.2/800-2M ML150G2 FIO	380529-L21
	For dual-processor configurations choose one each of the matching pair of processors	
	X2.8/800-1M ML150G2 FIO	371541-L21
	Intel Xeon 2.8GHz/800MHz-1MB Processor Option Kit for ML150G2	371541-B21
	X3.0/800-1M ML150G2 FIO	371542-L21
	Intel Xeon 3.0GHz/800MHz-1MB Processor Option Kit for ML150G2	371542-B21
	X3.2/800-1M ML150G2 FIO	371543-L21
	Intel Xeon 3.2GHz/800MHz-1MB Processor Option Kit for ML150G2	371543-B21
	X3.0/800-2M ML150G2 FIO	380528-L21
	Intel Xeon 3.0GHz/800MHz-2MB Processor Option Kit for ML150G2	380528-B21
	X3.2/800-2M ML150G2 FIO	380529-L21
	Intel Xeon 3.2GHz/800MHz-2MB Processor Option Kit for ML150G2	380529-B21
Base Memory	512 MB of Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 512 MB)	358347-B21
	1 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 1024 MB)	358348-B21
	2 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 2048 MB)	358349-B21
Optical Drives	48X CD-ROM Kit	377998-B21
	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	HP DVD+RW 16X Half Height CBT Drive ALL	383974-B21

Configuration Information-Factory Integrated Models (North America only)

Step 3: Choose Additional Factory Integratable Options

Base Hard Drives (Hot Plug SATA Models)	250-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349239-B21
	160-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349238-B21
	80-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349237-B21
Base Hard Drives (Hot Plug SCSI Models)	36-GB 15,000 rpm U320 Universal Hard Drive (1") ML150G2	371534-B21
	72-GB 10,000 rpm U320 Universal Hard Drive (1") ML150G2	377537-B21
	146-GB 10,000 rpm U320 Universal Hard Drive (1") ML150G2	371535-B21
Base Hard Drives (Non-Hot Plug SCSI Models)	36.4-GB 15,000 rpm, U320 Non-hot plug Hard Drive (1")	357012-B21
	72-GB 10,000 rpm U320 Non-hot plug Hard Drive (1")	332751-B21
	146 .8-GB 10,000 rpm, U320 Non-hot plug Hard Drive (1")	356990-B21

Step 4: Choose Additional Options for Factory Integration

Operating Systems	Pre-install Microsoft Windows 2003 Standard	373981-B21
	Pre-install Microsoft Windows 2003 Small Business Server, Standard Edition	373991-B21
	Pre-install Microsoft Windows 2003 Small Business Server, Premium Edition	374001-B21

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

Options

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

Processors	Intel Xeon 2.8GHz/800MHz-1MB Processor Option Kit for ML150G2	371541-B21
	Intel Xeon 3.0GHz/800MHz-1MB Processor Option Kit for ML150G2	371542-B21
	Intel Xeon 3.2GHz/800MHz-1MB Processor Option Kit for ML150G2	371543-B21
	Intel Xeon 3.0GHz/800MHz-2MB Processor Option Kit for ML150G2	380528-B21
	Intel Xeon 3.2GHz/800MHz-2MB Processor Option Kit for ML150G2	380529-B21
Memory	512 MB of Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 512 MB)	358347-B21
	1 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 1024 MB)	358348-B21
	2 GB Advanced ECC PC2700 DDR SDRAM DIMM Kit (1 x 2048 MB)	358349-B21
Optical Drives	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	HP DVD+RW 16X Half Height CBT Drive ALL	383974-B21
Hard Drives	<i>Ultra320 SCSI - Hot Plug</i>	
	146-GB 10,000 rpm U320 Universal Hard Drive (1") ML150G2	371535-B21
	36-GB 15,000 rpm U320 Universal Hard Drive (1") ML150G2	371534-B21
	72-GB 10,000 rpm U320 Universal Hard Drive (1") ML150G2	377537-B21
	<i>Ultra320 SCSI - Non-hot Plug</i>	
	146.8 GB 10,000 rpm, U320 Non-hot plug Hard Drive (1")	356990-B21
	36.4 GB 15,000 rpm, U320 Non-hot plug Hard Drive (1")	357012-B21
	72-GB 10,000 rpm U320 Non-hot plug Hard Drive (1")	332751-B21
	<i>SATA - Hot Plug HDD (SATA Models Only)</i>	
	250-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349239-B21
	160-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349238-B21
	80-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349237-B21
	<i>SATA - Non-hot Plug HDD (SATA Models Only)</i>	
80-GB SATA 1.5Gb 7,200 RPM Non-hot plug Hard Drive (1")	383410-B21	
160GB External HDD	HP External Backup Solution by Seagate (North America)	372914-001
	HP External Backup Solution by Seagate (EMEA)	372914-011

Options

Storage Controllers	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL	374654-B21
	ML100 SCSI RAID Controller	355671-B21
	HP 6-Port SATA RAID Controller	372953-B21
	2 Port SATA RAID Cable Kit for ML150G2	379093-B21
	NOTE: 2 Port SATA RAID Cable Kit (P/N: 379093-B21) required when using the HP 6-Port SATA RAID controller (P/N: 372953-B21) and supporting more than 4 SATA hard disk drives.	
	HP Internal SATA/SAS Target Fan Cable	389653-B21
Communications	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC1020 PCI 1000T Gigabit Server Adapter 32 PCI	353377-B21
	HP NC320T PCI Express Gigabit Server Adapter	367047-B21
Tape Backup Drives	NOTE: For complete listing of tape drive offerings see http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html For recommended tape drive offerings for this ProLiant server see the following:	
	HP StorageWorks Ultrium 232 Internal Tape Drive	DW064A
	HP StorageWorks Ultrium 232 External Tape Drive	DW065A
	DAT 24 Internal Tape Drive (Flint)	C1555D
	DAT 40 Internal Tape Drive (Carbon)	C5686B
	DAT 72 Internal Tape Drive (Carbon)	Q1522A
Uninterruptible Power Systems - Tower Supply	HP T750 UPS, Low Voltage (NA/JPN)	378439-D71
	HP T750 UPS, High Voltage (INTL)	378439-B31
Installation of Server into Racks	Monitor/Utility Shelf (68 kg capacity)	253449-B21
	100Kg/220Lbs Sliding shelf (Graphite)	234672-B21
	NOTE: When using the 100Kg/220Lbs Sliding shelf, install Stabilizer Kit for 5642 rack (PN 374493-B21).	
	Stabilizer Kit for 5642 rack (Graphite Carbon)	374493-B21
	NOTE: The stabilizing kit is used to prevent rack from tipping over.	
	600mm Stabilizer Option Kit (Graphite)	246107-B21
	NOTE: When using the 100Kg/220Lbs Sliding shelf, install 600mm Stabilizer Kit for 10622, 10636 and 10642 racks.	
	800mm Stabilizer Option Kit (Graphite)	255488-B21
NOTE: When using the 100Kg/220Lbs Sliding shelf, install 800mm Stabilizer Kit for 10842 racks.		
NOTE: Users wishing to place the ML150 G2 into a rack may utilize the ML150 G2 rack kit from Rack Solutions to support both 2- and 4-post racks. http://www.racksolutions.com/hp		

Options

Service and Support Offerings (HP Care Pack Services)	Hardware Services 4-Hour On-site Service	
	13-Hour x 5-Day Coverage, 3 Years	U8192A
	13-Hour x 5-Day Coverage, 3 Years, Electronic	U8192E
	24-Hour x 7-Day Coverage, 3 Years	U8193A
	24-Hour x 7-Day Coverage, 3 Years, Electronic	U8193E
	Hardware Services Next Business Day On-Site Service	
	9-Hour x 5-Day Coverage, 3 Years,	U8184A
	9-Hour x 5-Day Coverage, 3 Years, Electronic	U8184E
	Hardware Installation	U8195A
	Hardware Installation, Electronic	U8195E

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

Memory

HP ProLiant ML150 Generation 2 Server

Standard Memory

512-MB of PC2700 DDR SDRAM (333MHz)

Standard Memory Plus Optional Memory

Up to 5120-MB memory is available with the optional installation of PC2700 Registered ECC DDR SDRAM DIMM Memory kits.

Standard Memory Replaced with Optional Memory

Up to 8192-MB of memory is available with the removal of the standard 512-MB of memory and the optional installation of PC2700 Registered ECC DDR SDRAM DIMM Memory kits.

NOTE: Charts do not represent all possible memory configurations. Memory must be populated in one of the following ways: Slot 1 only; slots 1 and 2 only (pairs must be of the same size); or slots 1, 2, 3, and 4 (pairs must be of the same size and in the example below with slots 1 and 2 the same and slots 3 and 4 the same)

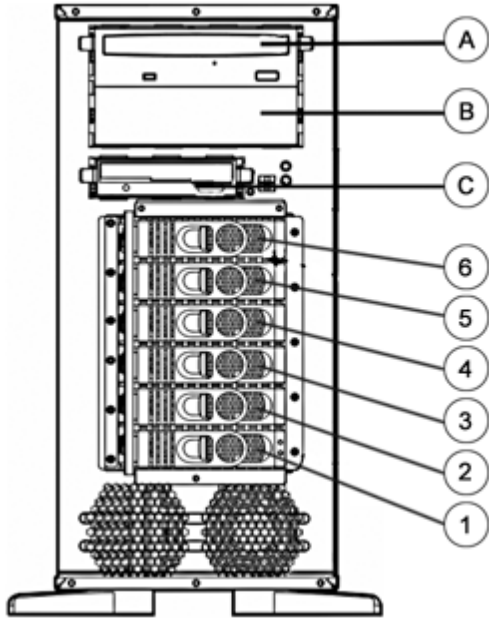
Memory		Slot			
		1	2	3	4
Standard	512-MB	Empty	Empty	Empty	512 MB
Optional	5120-MB	2048 MB	2048 MB	512 MB	512 MB
Maximum	8192-MB	2048 MB	2048 MB	2048 MB	2048 MB

Following are memory options available from HP:

1024-MB of Advanced ECC PC2700 DDR SDRAM DIMM Memory Kit (1 x 1 GB)	358348-B21
2048-MB of Advanced ECC PC2700 DDR SDRAM DIMM Memory Kit (1 x 2 GB)	358349-B21
512-MB of Advanced ECC PC2700 DDR SDRAM DIMM Memory Kit (1 x 512 MB)	358347-B21

Storage

Hot Plug SCSI Model



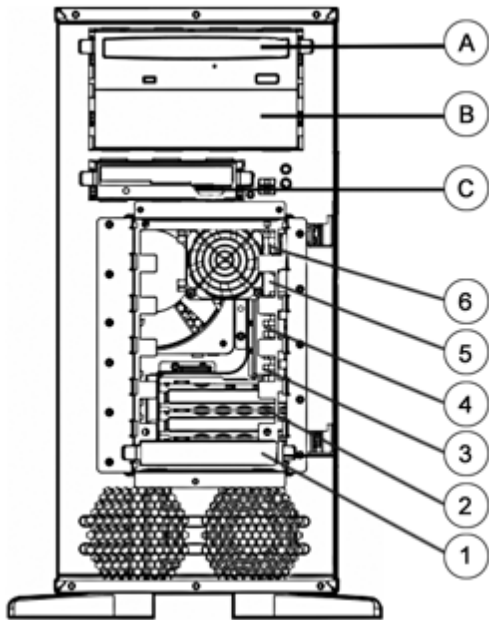
A 48x IDE CD-ROM

B Removable Media Bay (1.6" each)

C 1.44 MB Diskette Drive

1, 2, 3, 4, 5, 6 Six 1" Hot Plug SCSI Drive Bays

Non-Hot Plug SCSI Model



A 48x IDE CD-ROM

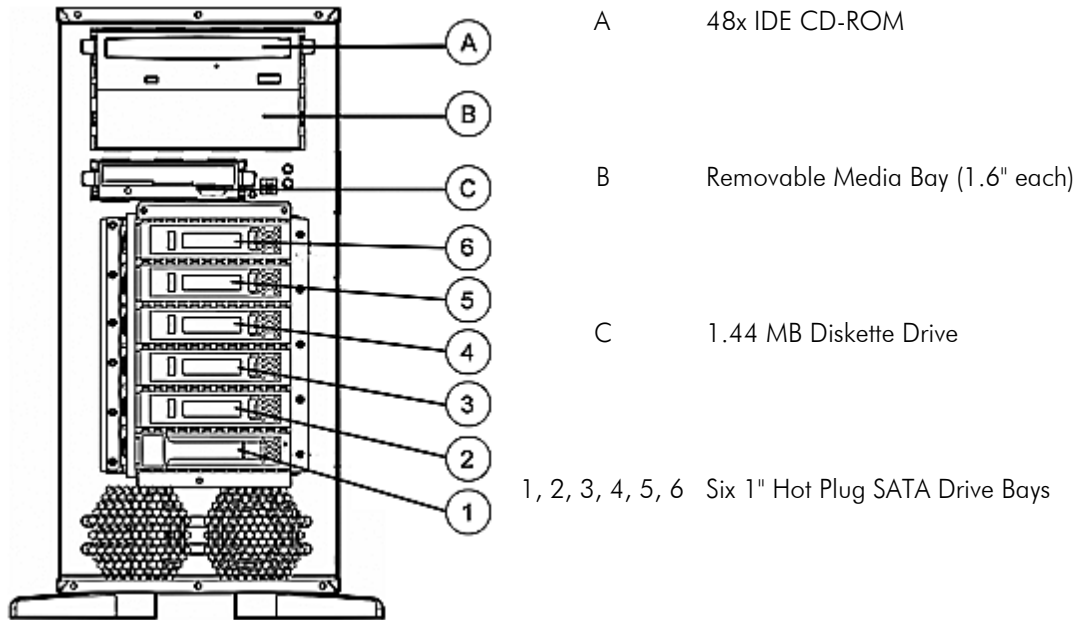
B Removable Media Bay (1.6" each)

C 1.44 MB Diskette Drive

1, 2, 3, 4, 5, 6 Six 1" Non Hot Plug SCSI Drive Bays

Storage

Hot Plug SATA Model



Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	Up to 1	C	Integrated IDE (ATAPI)
IDE CD-ROM Drive	Up to 2	A or B	Integrated IDE
48X Combo Drive Option Kit	Up to 2	A or B	Integrated IDE (ATAPI)

Hard Drives (SCSI Models only)

Ultra320 SCSI

	Quantity Supported	Position Supported	Controller
1-inch 36.4-GB 72.8-GB 146.8-GB	Up to 6	1,2,3,4,5,6	Slot based Single Channel Ultra3 SCSI Adapter (SCSI Models) - or - Optional SCSI RAID Controller

Hard Drives (SATA Models with optional HP 6-Port SATA RAID Controller)

7,200 rpm SATA

	Quantity Supported	Position Supported	Controller
1-inch 80.0-GB 160.0-GB 250.0 GB	Up to 6	1,2,3,4,5,6	Optional HP 6-Port SATA RAID Controller

Storage

Hard Drives (SATA Models)

7,200 rpm SATA

	Quantity Supported	Position Supported	Controller
1-inch 80.0-GB 160.0-GB 250.0 GB	Up to 4	1,2,3,4	Slot based 4 port SATA Adapter (SATA Models)

Maximum Storage Capacity - SCSI Models

Internal 880.8 GB (6 x 146.8 GB 1" SCSI hard drives)

Total 880.8 GB (6 x 146.8 GB 1" SCSI hard drives)

Maximum Storage Capacity - SATA Models

Internal 1 TB (4 x 250 GB 1" SATA drives) or 1.5 TB (6 X 250GB 1" SATA drives) with optional HP 6-Port SATA RAID Controller

Total 1 TB (4 x 250 GB 1" SATA drives) or 1.5 TB (6 X 250GB 1" SATA drives) with optional HP 6-Port SATA RAID Controller

Tape Drives

NOTE: A SCSI controller needs to be purchased to operate internal SCSI devices in the SATA and Hot Plug SCSI Model.

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following:

http://h18000.www1.hp.com/products/quickspecs/North_America/10233.html (North America)

<http://h18000.www1.hp.com/products/quickspecs/Division/10233.html> (Worldwide)

	Quantity Supported	Position Supported	Optional Controller
DAT 24 Internal Tape Drive (Flint)	Up to 1	B	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL
DAT 40 Internal Tape Drive (Carbon)	Up to 1	B	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL
DAT 72 Internal Tape Drive (Carbon)	Up to 1	B	64-Bit/133MHz Single Channel Ultra320 SCSI HBA ALL

Power Specifications

Part Number	372986-001
Spare Kit	372783-001
Operational Input Voltage Range (V rms)	90 to 135 and 180 to 264 V ac full ranging
Frequency Range (Nominal) (Hz)	47 to 63 Hz

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	600	600	600	600	600	600
Nominal Input Current (A rms)	10	10	5	5	5	5
Max Rated Input Wattage Rating (Watts)	800	800	750	750	750	750
Max. Rated VA (Volt-Amp)	800	800	780	780	780	780
Efficiency (%)	75	77	79	80	80	80
Power Factor	0.95	0.95	0.9	0.9	0.9	0.9
Leakage Current (mA)	3.5mA	3.5mA	3.5mA	3.5mA	3.5mA	3.5mA
Maximum Inrush Current (A peak)	50	50	50	50	50	50
Maximum Inrush Current duration (mS)	3	3	3	3	3	3

System Specifications

	Power**
HP ProLiant ML150 G2 Fully Configured	(see**)
Fully Loaded System Input Wattage (W)	420W
Fully Loaded System Input Current (A rms)	5A @ 115V, 2.5A @ 230V
Fully Loaded System Thermal (BTU- Hr)r)	1435 BTU
Fully Loaded System VA (Volt-Amp)	420
System Leakage with all power supplies loaded (mA)	3.5mA
System Inrush Current with all power supplies loaded (A)	50A
Power cord requirements	Nema 5-15P to IEC320-C13
	IEC320-C13 to IEC320-C14
**Power shown is for a fully configured system consisting of	
	(2) CPU (4) double-sided DIMMs (6) HDDs SCSI (1) CD-ROM (0) DVD-ROM (1) 1.44MB Diskette Drive (1) PCI express (1) PCI (3) PCI X (1) 600 watts power supply

Power Specifications

Power Cords (13 Cord Sets)	
Country	Power Cord Part Number
APD	100614-009, 100613-008, 139867-004, 187487-004(India)
Brazil	285052-001
Italy	109197-008
Australia/New Zealand	100661-001
Euro	100614-009
France	100614-009
Germany	100614-009
Japan	139867-004
PRC	286496-001
UK/Singapore	100613-008
US, Taiwan	121565-001

Technical Specifications

System Unit	Dimensions (HxWxD) (with feet)	17.56 in x 8.03 in x 21.3 in (44.6 x 20.4 x 54.1 cm)		
	Weight (approximate)	42 lb (17 kg)		
	Input Requirements (per power supply)	Range Input Voltage	90 to 135 VAC/180 to 265 VAC	
		Normal Line Voltage	100 to 120/200 to 240 VAC	
	Line Frequency	50 to 60 Hz		
	Rated Input Current	load 8A at 115VAC, 4A at 230VAC		
	BTU Rating	1907 BTU		
	SCSI Connectors (SCSI Models only)	One internal LVD/SE connector for U320 devices		
	Power Supply Output Power (per power supply)	Rated Steady-State Power	600W	
		Maximum Peak Power	660W	
	Temperature Range	Operating	50° to 93° F (10° to 35° C)	
		Shipping	-40° to 150° F (-40° to 66° C)	
	Relative Humidity (non-condensing)	Operating	20% to 80%	
		Non-operating	5% to 90%	
	Acoustic Noise	Idle (Fixed Disk Drives Spinning)	L WAd (BELS)	5.8
Operating (Random Seeks to Fixed Disks)		L WAd (BELS)	6.0	
<hr/>				
<hr/>				
Non-Hot Plug Ultra320 SCSI Hard Drives	36.4 GB Ultra320 SCSI 15,000 rpm Hard Drive 357012-B21	Capacity	36,419.2 MB	
		Height	1 in (2.54 cm)	
		Width	4 in (10.16 cm)	
		Interface	Ultra320 SCSI	
		Transfer Rate Synchronous (Maximum)	320 MB/s	
		Seek Time (typical reads, including settling)	Single Track	0.4 ms
			Average	3.8 ms
			Full-Stroke	8 ms
		Rotational Speed	15,000 rpm	
		Physical Configuration	Bytes/Sector	512
Logical Blocks	71,132,000			
Operating Temperature	50° to 95° F (10° to 35° C)			

Technical Specifications

48X Max IDE (ATAPI) CD-ROM Drive	Applicable Disk	CD-ROM, CD-XA, CD-DA (Mode 1, Mode 2, Form 1 and 2) Photo CD (Single and Multi-session) Mixed Mode (Audio and Data combined) CD-R
	Capacity	540 MB (Mode 1, 12 cm) 650 MB (Mode 2, 12 cm)
Block Size	Mode 1	2,048 bytes
	Mode 2	2,340 bytes, 2,336 bytes
	CD-DA	2,352 bytes
	CD-XA	2,328 bytes
Interface	IDE (ATAPI)	
Access Times (typical)	Random	< 100 ms
	Full-Stroke	< 150 ms
Data Transfer Rate	Sustained	3000 to 7200 KB/s (20X to 48X)
	Burst	150 KBps to 7,200 KBps
	Bus Rate	16.7 MBp
Cache Buffer	128 KB	
Start-up Time (typical)	< 7 seconds	
Stop Time	< 4 seconds	
Laser Parameters	Type	Semiconductor Laser GaAlAs
	Wave Length	780 ± 25 nm
Operating Conditions	Temperature	41° to 113° F (5° to 45° C)
	Humidity	10% to 80%
Dimensions	(HxWxD, maximum)	1.7 x 5.85 x 8.11 in (42.9 x 150 x 208 cm)
	Weight	2.09 lb (0.95 kg)

Slot based Single Channel Ultra3 SCSI Adapter (SCSI Models only)	Drives Supported	Up to 16 SCSI devices Wide
	Data Transfer Method	64-bit 66-MHz PCI-X bus-master
	SCSI Channel Transfer Rate	320 MB/s per channel
	Maximum Transfer Rate per PCI Bus (peak)	267 MB/s per channel
	SCSI Protocols	Wide Ultra4 SCSI, Wide Ultra2 SCSI, Wide Ultra SCSI-3, Fast-Wide SCSI-2, and Fast SCSI-2 Fast SCSI-2
	Electrical Protocol	Low Voltage Differential (LVD)
	SCSI Termination	Active Termination
	External SCSI Connectors	None

Technical Specifications

Slot based 4 port SATA controller (SATA Model Only)	SATA Protocol	SATA 1.5Gb/s
	SATA Ports	4 internal
	Port transfer rate	1.5 Gb/s total
	Drives Supported	Up to 4 SATA HDDs
	Data Transfer Method	32-bit/66-MHz PCI-X bus-master
	Storage Capacity	up to 1TB (4x 250GB hot plug 1" SATA HDD)
	PCI	3.3 volt PCI slot compatibility only

Broadcom 5721 PCI-Express Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)	Network Interface	Ethernet Standards: IEEE 802.3, 802.3u, 802.3ad, and 802.3ab, 802.1x, 802.1Q and 802.1p
	Data Transfer Method	PCI Express
	Network Transfer Rate	10/100/1000 Mbps, Half- Auto-negotiated speeds of 10/100/1000 Mbps and full-duplex in both half and full duplex
	Connector	RJ-45 connector
	Cable Support	Category 5 or higher UTP wiring

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