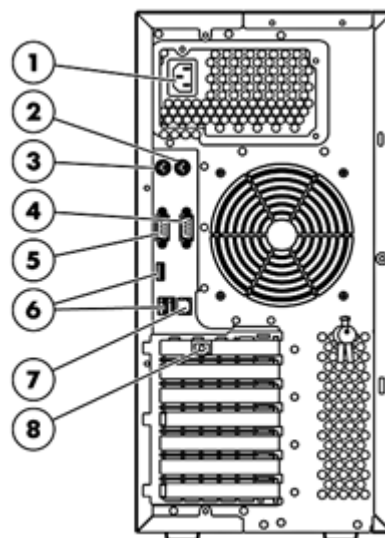
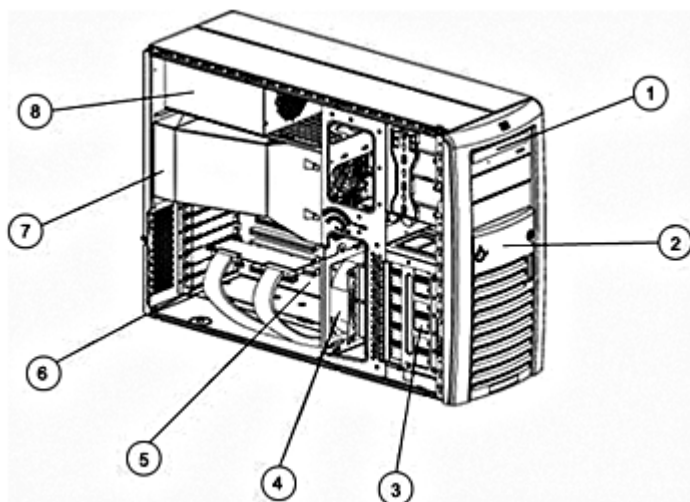


QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Overview



Front View:

1. 48x CD-ROM (2 media bays available)
2. Locking front bezel
3. Six 3.5" SAS/SATA HDD bays
4. Front system fan
5. Main System Board
6. Six PCI slots
7. Processor and processor air duct
8. Power Supply

Rear View:

1. Power
2. Mouse Port
3. Keyboard Port
4. Serial Port
5. Monitor Port
6. USB Port
7. Network Port
8. Dedicated LO100 LAN Management Port

What's New

The ML150 G3 now supports:

- Intel® Quad-Core processors 1.60 GHz 1066, 1.86 GHz 1066 FSB and 2.00 GHz 1333 FSB
- Supporting up to six (6) HP 300GB 15K SAS 3.5 SP HDD

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Overview

At A Glance

- **Processor:**
 - Quad-Core Intel® Xeon® processor 5300 sequence
 - Dual-Core Intel® Xeon® processor 5000 and 5100 sequence
 - Intel® 5000V chipset
 - 667 MHz, 1066 MHz or 1333MHz Front Side Bus
- **Memory:**
 - PC2-5300 Fully Buffered DIMMs (DDR2-667)Memory
 - SAS/SATA - 4 sockets, 1 GB standard, 8 GB maximum
 - SATA - 4 sockets, 512 MB, 8 GB maximum
- **Storage Controller:**
 - HP Embedded SATA RAID Controller
 - HP Smart Array E200/128 BBWC Controller
- **Internal Drive Support:**
 - Internal SAS storage capacity of up to 1.8TB (6 x 300GB SAS drives)
 - Internal SATA storage capacity of up to 4.5TB (6 x 750GB SATA drives)
 - Supports up to 6 SAS/SATA hard drives via HBA or RAID Controller
- **Network Controller:**
 - Embedded HP NC7781 Gigabit Server Adapter 10/100/1000 WOL (Wake on LAN)
- **Expansion Slots:**
 - Six expansion slots: Three (3) PCI-X (64-bit/100MHz), 2 PCI-Express (x4/x8), and 1 PCI (32-bit/33MHz). One slot designated for optional HP ProLiant Lights-Out 100 Remote Management card
- **USB Ports:**
 - Seven USB 2.0 ports:- 3 rear, 2 front, 2 Internal(1 standard and 1HP 5-pin)
- **Redundancy:**
 - One 650W Power Supply
- **Form Factor:**
 - 5U Tower Models. Rack models via optional rack mounting kit
- **Management:**
 - Optional HP ProLiant Lights-Out 100 Remote Management Card
- **Deployment/Serviceability:**
 - Easy chassis entry and component access
- **Warranty:**
 - Protected by HP Services and a worldwide network of HP Authorized Channel Partners, including a one-year, limited warranty, Next Business Day 1, year on-site limited Global warranty. Certain restrictions and exclusions apply. SATA hard drives have a one year warranty.

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Standard Features

NOTE: For a brief, printer friendly data sheet that describes this product and informs you of the essential capabilities and specifications, please visit: <http://h71028.www7.hp.com/ERC/downloads/4AA0-66066ENW.pdf>

Processor	Quad-Core Intel® Xeon® processor E5335 (2.00 GHz, 1333 MHz FSB, 80 W)*
One of the following depending on configuration	Quad-Core Intel® Xeon® processor E5320 (1.86 GHz, 1066 FSB, 80W)*
	Dual-Core Intel® Xeon® processor 5060 (3.2 GHz, 1066 FSB, 130W)*
	Dual-Core Intel® Xeon® processor 5140 (2.33 GHz, 1333 FSB, 65W)*
	Dual-Core Intel® Xeon® processor 5150 (2.66 GHz, 1333 FSB, 65W)*
	* Available via Configuration To Order only. Please see Configuration Information- Factory Integrated Models section of this QuickSpecs.
	Quad-Core Intel® Xeon® processor E5310 (1.6 GHz, 1066 FSB, 80W)
	Dual-Core Intel® Xeon® processor 5050 (3.0 GHz, 667 FSB, 130W)
	Dual-Core Intel® Xeon® processor 5110 (1.6 GHz, 1066 FSB, 65W)
	Dual-Core Intel® Xeon® processor 5120 (1.86 GHz, 1066 FSB, 65W)
	Dual-Core Intel® Xeon® processor 5130 (2.0 GHz, 1333 FSB, 65W)

Cache Memory	Integrated 2x2MB level 2 cache (5000 sequence) Integrated 4MB level 2 cache (5100 sequence) Integrated 2x4MB level 2 cache (5300 sequence)
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Upgradeability	Upgradeable to dual processor NOTE: Future upgradeable to Xeon® Series 5300 Quad-Core, or 5100 Dual-Core processors (Please contact your regional sales support to determine quad core upgradeability. Some of the earlier shipping models may not support this upgrade)
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Chipset	Intel® 5000V Chipset
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Memory	Type	PC2-5300 Fully Buffered DIMMs (DDR2-667)
	Standard for SATA Models	512 MB
	Standard for SAS/SATA Model	1 GB
	Maximum	8 GB

Network Controller	Embedded HP NC7781 Gigabit Server Adapter 10/100/1000 WOL (Wake on LAN)
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QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Standard Features

Expansion Slots #	Technology	Bus Width	Connector Width	Bus Number*	Form Factor	Notes
1	PCI-32	32 bit	NA	Dynamic	Full Length, full height	
2	PCI-X	64 bit	NA	Dynamic	Full Length, full height	
3	PCI-X	64 bit	NA	Dynamic	Full Length, full height	
4	PCI-X	64 bit	NA	Dynamic	Full Length, full height	
5	PCIe	X4	X8	Dynamic	Full Length, full height	
6	PCIe	X4	X8	Dynamic	Full Length, full height	

Storage Controller HP Embedded SATA RAID Controller or HP 8 Internal Port SAS Host Bus Adapter with RAID

Storage

Diskette Drive	None ship standard 1.44 MB USB Diskette Drive Option available
Optical Drive	48x IDE (ATAPI) CD-ROM Drive
Hard Drives	None ship standard SAS and SATA HDD options are available

Maximum Internal Storage

SATA	4.5TB (6 x 750GB) SATA (With standard SATA controller)
SAS	1.8TB (6 x 300GB) SAS (With optional SAS controllers)

NOTE: Support for a single logical drive limited to 2TB.

NOTE: Information below pertains to SATA configuration:

- In BIOS revisions prior to 11/03/2006, the default configuration for SATA models will not recognize when more than four drives are installed while running Microsoft Windows operating system. To recognize all six drives, AHCI mode has to be enabled and SATA AHCI driver installed. For further information on how to enable AHCI mode, please refer to the RTF card that is shipped with the server or posted on <http://www.hp.com>.

- When configuring RAID using the embedded SATA RAID controller, two arrays have to be set up to recognize all six drives.

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Standard Features

Interfaces	Parallel	0	
	Serial	1	
	Pointing Device (Mouse, PS2)	1	
	Graphics	1	
	Keyboard (PS2)	1	
	USB 2.0 Ports	7 (3 Rear, 2 Front, and 2 Internal)	
	Dedicated USB	1 (available for USB tape connectivity)	
		NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html .	
	Network RJ-45 (Ethernet)	1 (10/100/100 Gbits/s)	
	Remote Management	1 (10/100 via optional Lights-Out 100 Remote Management Card)	

Graphics	Integrated 2MB SRAM video
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Form Factor	Tower (5U). Rack mounting available via rack mount option kit (P/N 408697-B21)
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Industry Standard Compliance	ACPI V2.0 compliant PCI 2.3 compliant PXE Support WOL Support Microsoft® Logo certifications
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Manageability	Optional HP ProLiant Lights-Out 100 Remote Management Card Embedded IPMI standard reporting
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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	One 650 W Power, Non-hot plug, non-redundant
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System Fans	2 - Non-hot plug, Non-redundant system fans
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QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Standard Features

OS Support

Microsoft Small Business Server 2003 (32 and 64 bit)
Microsoft Windows 2003 Server, Standard Edition (32 and 64 bit)
Microsoft Windows 2003 Server, Web Edition
Microsoft Windows 2003 Server, Enterprise Edition (32 and 64 bit)
Microsoft Windows 2000 Server
Netware 6.5
SCO OpenServer Legend 6.0
SCO Unixware 7.1.4
Red Hat Enterprise Linux
SUSE Linux Enterprise Server

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

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

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

HP Enterprise Configurator

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

Server Management Stand Alone Software Product

HP Systems Insight Manager

HP Systems Insight Manager (HP SIM) provides web server discovery, association, and launch

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Standard Features

Core Infrastructure Management

Subscriber's Choice

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

Service and Support

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

NOTE: Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

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

HP Care Pack services include coverage for the HP branded hardware options qualified for the server that are purchased at the same time or afterward and internal to the enclosure. It also includes the 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 and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

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

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

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

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

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

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

For a complete listing of service offerings and information visit:

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

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



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Models

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

SAS/SATA Models

<p>HP ML150G3 E5310 HP-SAS/SATA, 1GB 438786-xx1</p>	<p>Processor(s) One of the following depending on Model</p>	<p>(1)Quad-Core Intel® Xeon® processor E5310 (1.60 GHz, 1066 FSB, 80W) (1)Dual-Core Intel® Xeon® processor 5050 (3.00 GHz, 667 FSB, 130W) (1)Dual-Core Intel® Xeon® processor 5130 (2.0 GHz, 1333 FSB, 80W)</p>
<p>HP ML150G3 5130 HP-SAS/SATA,1GB 416773-xx1</p>	<p>Cache Memory One of the following depending on Model</p>	<p>Integrated 2x2MB L 2 cache (5000 sequence) Integrated 4MB L 2 cache (5100 sequence) Integrated 2x4MB L2 cache (5300 sequence)</p>
	<p>Memory</p>	<p>1 GB PC2-5300 Fully Buffered DIMMs (DDR2-667)</p>
	<p>Network Controller</p>	<p>Embedded HP NC7781 Gigabit Server Adapter 10/100/1000 WOL</p>
	<p>Storage Controller</p>	<p>HP 8 Internal Port SAS Host Bus Adapter with RAID</p>
	<p>Hard Drive</p>	<p>None ship standard</p>
	<p>Internal Storage One of the following depending on Model</p>	<p>1.8TB (6 x 300GB) SAS 4.5TB (6 x 750GB) SATA (With standard/optional SAS controllers and 6 optional HDD)</p>
	<p>Optical Drive</p>	<p>48x CD-ROM</p>
	<p>Form Factor</p>	<p>Tower standard; 5U Rack via optional rack mounting kit</p>

SATA Models

<p>HP ML150G3 5110 NHP-SATA,512MB 416769-xx1</p>	<p>Processor(s) One of the following depending on Model</p>	<p>(1)Dual-Core Intel® Xeon® processor 5050 (3.00 GHz, 667 FSB, 130W) (1)Dual-Core Intel® Xeon® processor 5110 (1.6 GHz, 1066 FSB,65W) (1)Dual-Core Intel® Xeon® processor 5120 (1.86 GHz, 1066 FSB, 65W) (1)Dual-Core Intel® Xeon® processor 5130 (2.0 GHz, 1333 FSB, 65W)</p>
<p>HP ML150G3 5110 HP-SATA,512MB 416768-xx1</p>	<p>Cache Memory</p>	<p>Integrated 2x2MB L2 cache (5000 sequence) Integrated 4MB L2 cache (5100 sequence) Integrated 2x4MB L2 cache (5300 sequence)</p>
<p>HP ML150G3 5120 HP-SATA,512MB 416770-xx1</p>	<p>Memory</p>	<p>512 MB PC2-5300 Fully Buffered DIMMs (DDR2-667)</p>
	<p>Network Controller</p>	<p>Embedded HP NC7781 Gigabit Server Adapter 10/100/1000 WOL</p>
	<p>Storage Controller</p>	<p>HP Embedded SATA RAID Controller</p>
	<p>Hard Drive</p>	<p>None ship standard</p>
<p>HP ML150G3 5130 HP-SATA,512MB 416772-xx1</p>	<p>Internal Storage</p>	<p>4.5TB (6 x 750GB) SATA (With standard SATA controller and 6 optional HDD)</p>
	<p>Optical Drive</p>	<p>48x CD-ROM</p>
	<p>Form Factor</p>	<p>Tower standard; 5U Rack via optional rack mounting kit</p>

NOTE: In BIOS revisions prior to 11/03/2006, the default configuration for SATA models will not recognize when more than four drives are installed while running Microsoft Windows operating system. To recognize all six drives, AHCI mode has to be enabled and SATA AHCI driver installed. For further information on how to enable AHCI mode, please refer to the RTF card that is shipped with the server or posted on <http://www.hp.com>.

NOTE: When configuring RAID using the embedded SATA RAID controller, two arrays have to be set up to recognize all six drives.

NOTE: Only hot plug drives are supported on the ML150 G3; these hot plug drives, when installed on Non-hot plug models, will not have hot plug functionality.

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Models

[information.](#)

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

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Configuration Information-Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.

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 G3 Non-hot Plug SATA CTO Chassis	403111-B21
	Factory Integrated Models ship with:	
	Embedded HP NC7781 Gigabit Server Adapter 10/100/1000 WOL	
	Single 650W Power Supply	
	Tower 5U Form Factor	
	HP ProLiant ML150 G3 Hot Plug SATA CTO Chassis	403112-B21
	Factory Integrated Models ship with:	
	Embedded HP NC7781 Gigabit Server Adapter 10/100/1000 WOL	
	Single 650W Power Supply	
	Tower 5U Form Factor	

Step 2: Choose Required Options (Select only one option from each category unless otherwise noted)

Processors	Quad-Core Processor Option Kits	
	Quad-Core Intel® Xeon® processor E5335 (2.00 GHz, 80 W, 1333 MHz FSB)	437905-L21
	NOTE: If 2 processors are desired, select one 437905-L21 and one 437905-B21	
	Quad-Core Intel® Xeon® processor E5310 (1.6 GHz, 1066 FSB, 80W)	437903-L21
	NOTE: If 2 processors are desired, select one 437903-L21 and one 437903-B21	
	Quad-Core Intel® Xeon® processor E5320 (1.86 GHz, 1066 FSB, 80W)	436460-L21
	NOTE: If 2 processors are desired, select one 436460-L21 and one 436460-B21	
	Dual-Core Processor Option Kits	
	Dual-Core Intel® Xeon® processor 5110 (1.6 GHz, 1066 FSB, 65W), FIO	417555-L21
	NOTE: If 2 processors are desired, select one 417555-L21 and one 417555-B21	
	Dual-Core Intel® Xeon® processor 5120 (1.86 GHz, 1066 FSB, 65W), FIO	417556-L21
	NOTE: If 2 processors are desired, select one 417556-L21 and one 417556-B21	
	Dual-Core Intel® Xeon® processor 5130 (2.0 GHz, 1333 FSB, 65W), FIO	417557-L21
	NOTE: If 2 processors are desired, select one 417557-L21 and one 417557-B21	
	Dual-Core Intel® Xeon® processor 5140 (2.33 GHz, 1333 FSB, 65W), FIO	417558-L21
	NOTE: If 2 processors are desired, select one 417558-L21 and one 417558-B21	
	Dual-Core Intel® Xeon® processor 5150 (2.66 GHz, 1333 FSB, 65W), FIO	418226-L21
	NOTE: If 2 processors are desired, select one 418226-L21 and one 418226-B21	
Memory	512MB FBD PC2-5300 1x512MB Kit	413507-B21
	1GB FBD PC2-5300 2X512MB Kit	397409-B21
	2GB FBD PC2-5300 2X1GB Kit	397411-B21
	4GB FBD PC2-5300 2X2GB Kit	397413-B21
Optical Drives	48X CD-ROM Kit	398972-B21
	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Configuration Information-Factory Integrated Models

HP DVD±R/RW 16X Half Height	383974-B21
16X DVD-ROM Drive Option Kit (Carbon)	217053-B21
USB Floppy Drive, External	DC361B

NOTE: For the installation of Windows and other OS's, a floppy drive may be required to complete driver installation. A USB drive key may not work to complete driver installation.

Hard Drives

SATA Hot Plug Drives

HP 750GB 1.5G SATA 7.2K 3.5" HDD	432341-B21
HP 500GB 1.5G SATA 7.2K 3.5" HDD	395473-B21
HP 250GB 1.5G SATA 7.2K 3.5" HDD	349239-B21
HP 160GB 1.5G SATA 7.2K 3.5" HDD	349238-B21
HP 80GB 1.5G SATA 7.2K 3.5" HDD	349237-B21

SAS Hot Plug Drives

HP 300GB 3G SAS 15K 3.5" SP HDD	431944-B21
HP 146GB 3G SAS 15K 3.5" SP HDD	375872-B21
HP 72GB 3G SAS 15K 3.5" SP HDD	375870-B21

NOTE: SAS hard drives require a SAS HBA or Smart Array Controller.

NOTE: Only hot plug drives are supported on the ML150 G3; these hot plug drives, when installed on Non-hot plug models, will not have hot plug functionality.

Step 3: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Options" section below. Some options may not be available for factory integration. Please contact an HP sales representative for additional information.

Operating Systems	Pre-install Microsoft Windows 2003 Standard (English)	409167-B21
	Pre-install Microsoft Windows 2003 Small Business Server, Premium Edition (English)	379603-B21

NOTE: For additional language part numbers, please visit:
<http://www.hp.com/go/microsoft> and select 'HP & Windows OS'.

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

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Options

Processors

Quad-Core Processor Option Kits

Quad-Core Intel® Xeon® processor E5335 (2.00 GHz, 80 W, 1333 MHz FSB)	437905-B21
Quad-Core Intel® Xeon® processor E5310 (1.6 GHz, 1066 FSB)	437903-B21
Quad-Core Intel® Xeon® processor E5320 (1.86 GHz, 1066 FSB, 80W)	436460-B21

Dual-Core Processor Option Kits

Dual-Core Intel® Xeon® processor 5110 (1.6 GHz, 1066 FSB)	417555-B21
Dual-Core Intel® Xeon® processor 5120 (1.86 GHz, 1066 FSB)	417556-B21
Dual-Core Intel® Xeon® processor 5130 (2.0 GHz, 1333 FSB)	417557-B21
Dual-Core Intel® Xeon® processor 5140 (2.33 GHz, 1333 FSB,65W)	417558-B21
Dual-Core Intel® Xeon® processor 5150 (2.66 GHz, 1333 FSB, 65W)	418226-B21

Memory

512MB FBD PC2-5300 1x512MB Kit	413507-B21
1GB FBD PC2-5300 2X512MB Kit	397409-B21
2GB FBD PC2-5300 2X1GB Kit	397411-B21
4GB FBD PC2-5300 2X2GB Kit	397413-B21

Optical Drives

48X CD-ROM Kit	398972-B21
CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
HP DVD±R/RW 16X Half Height	383974-B21
16X DVD-ROM Drive Option Kit (Carbon)	217053-B21
USB Floppy Drive, External	DC361B

NOTE: For the installation of Windows and other OS's, a floppy drive may be required to complete driver installation. A USB drive key may not work to complete driver installation.

Hard Drives

SATA Hot Plug Drives

HP 750GB 1.5G SATA 7.2K 3.5" HDD	432341-B21
HP 500GB 1.5G SATA 7.2K 3.5" HDD	395473-B21
HP 250GB 1.5G SATA 7.2K 3.5" HDD	349239-B21
HP 160GB 1.5G SATA 7.2K 3.5" HDD	349238-B21
HP 80GB 1.5G SATA 7.2K 3.5" HDD	349237-B21

SAS Hot Plug Drives

HP 300GB SAS 15K 3.5" SP HDD	431944-B21
HP 146GB 3G SAS 15K 3.5" SP HDD	375872-B21
HP 72GB 3G SAS 15K 3.5" SP HDD	375870-B21

NOTE: SAS hard drives require a SAS HBA or Smart Array Controller.

NOTE: Only hot plug drives are supported on the ML150 G3; these hot plug drives, when installed on Non-hot plug models, will not have hot plug functionality.

NOTE: The purchase of SAS HBA or array controller is required.



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Options

Storage Controllers	HP SC44Ge Host Bus Adapter	416096-B21
	HP SC11Xe Host Bus Adapter	412911-B21
	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
	HP 8 Internal Port SAS Host Bus Adapter with RAID	347786-B21
	HP Smart Array E200/128 BBWC Controller	411508-B21
	128-MB BBWC (Battery-Backed Write Cache) Enabler	351580-B21
	NOTE: Supports the Smart Array E200 Controller.	
	HP ML150G3 1-PORT SATA RAID Cable	413748-B21
	NOTE: This cable is required for each additional SATA hard drive	
	HP SAS/SATA 4 in 1 to 4 in Cable	438160-B21
NOTE: This cable is required when adding either the HP 8 Internal Port SAS HBA with RAID or the HP Smart Array E200 on a hot-plug SATA model or SC44GE HBA.		
HP Internal SAS/SATA 4-Port Cable	430479-B21	
NOTE: This cable is required when adding either the HP 8 Internal Port SAS HBA with RAID or the HP Smart Array E200 on a non hot-plug SATA model		
NOTE: Hot plug SATA servers come with a hot plug backplane, making them hot plug ready. For full hot plug capability on the hot plug SATA models, a hot plug controller (347786-B21) must also be purchased		

Communications	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	NOTE: Does not support Windows 2000.	
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	NOTE: Does not support Windows 2000.	
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21	
Agere2006 PCI Hi-Speed 56K Modem	440519-B21	

Remote Management	HP ProLiant ML150 G3 Lights-Out 100 Remote Management Card	403582-B21
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Tape Drives

NOTE: Installation of SCSI internal tape drives in a ML150 model requires SCSI controller kit (PN: 374654-B21).

NOTE: For complete listing of tape drive offerings see:

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

USB Tape Drives

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

HP ProLiant DAT 160 USB Internal Tape Drive EH976A

NOTE: Available in North America only.

Ultrium Tape Drives

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

HP ProLiant Ultrium 920 SAS Internal Tape Drive EH978A

NOTE: Available in North America only.

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Options

HP D2D Backup System	HP StorageWorks D2D110 Backup System	EH880A
	NOTE: 1TB of Disk Storage	
	HP StorageWorks D2D110 Backup System with Data Protector Express Software Kit	EH923A
	NOTE: 1TB of Disk Storage	
	HP StorageWorks D2D120 Backup System	EH884A
	NOTE: 2TB of Disk Storage	
	HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit	EH924A
	NOTE: 2TB of Disk Storage	
HP StorageWorks D2D130 Backup System	EH950A	
NOTE: 3TB of Disk Storage.		
HP StorageWorks D2D130 Backup System with Data Protector Express Software Kit	EH951A	
NOTE: 3TB of Disk Storage.		
HP StorageWorks D2D130 Backup System with LTO-3 Ultrium 920 SAS Tape Drive	EH952A	
NOTE: 3TB of Disk Storage.		
NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information:		
http://h18000.www1.hp.com/products/quickspecs/12651_div/12651_div.html (Worldwide)		

Uninterruptible Power Systems - Tower Supply	HP T750 UPS, Low Voltage (NA/JPN)	378439-D71
	HP T750 UPS, High Voltage (INTL)	378439-B31
	HP T1000 UPS	AF403A

Installation of Server into Racks	ProLiant ML150 G3 Tower to Rack Conversion Kit	408697-B21
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HP KVM Switch Options	IP Console Switch with Virtual Media (KVM/IP), 4x1x16	AF602A
	IP Console Switch with Virtual Media (KVM/IP), 2x1x16	AF601A
	Server Console Switch with Virtual Media (KVM), 0x2x16	AF600A
	PS2 Virtual Media Interface Adapter, 1 Pack	AF604A
	NOTE: The AF604A is only compatible with the Console Switches with Virtual Media	
	PS/2 Interface Adapter, 1 pack	262588-B21
	PS/2 Interface Adapter, 8 pack	262587-B21
	USB Interface Adapter, 1 pack	336047-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm .	
	HP 1x4 Console Switch	AF611A
	HP PS2 Server Console Cable, 6 foot, 2-Pack	AF612A
	HP USB Server Console Cable, 6 foot, 2-Pack	AF613A
	NOTE: required for supporting USB peripherals.	
	NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm .	



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Options

USB Options	HP USB 2-Button Optical Scroll Mouse (Carbonite/Silver)	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	USB 2.0 4-port HUB	DG954A
	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	HP 256MB USB 2.0 Floppy Drive Key	442084-B21

Service and Support Offerings (HP Care Pack Services)	Extended Care - Minimum recommended service support offer designed to ensure customers have access to expert assistance, whenever they need it.	U8184E
	Next Business Day On-Site Service, 9-Hour x 5-Day Coverage, 3 Years, Electronic	
	Committed Care - Cost-effective service options designed to extend HP Services committed response and guaranteed fix times, designed to speed problem resolution.	U8192E
	4-Hour On-Site Service - 13-Hour x 5-Day Coverage, 3 Years, Electronic	
	Committed Response - Highest HP Support service level recommend to help increase IT performance and availability with comprehensive, consistent hardware and software services	U8193E
	4-Hour On-Site Service - 24-Hour x 7-Day Coverage, 3 Years, Electronic	
	Deployment Services - HP Installation and Start Up services designed to take time, risk, and worry out of the deployment of ProLiant servers - and free customers people to focus on what they do best, their business.	U8195E
	Hardware Installation, Electronic (install services)	
	NOTE: For more information, customer/resellers can contact http://www.hp.com/services/carepack .	

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Memory

HP ProLiant ML150 Generation 3 Server

Standard Memory

512 MB of PC2-5300 Fully Buffered DIMMs (DDR2-667)

Standard Memory Plus Optional Memory

Up to 5120 MB memory is available with the optional installation of PC2-5300 Fully Buffered DIMMs (DDR2-667) 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 PC2-5300 Fully Buffered DIMMs (DDR2-667) 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 3 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 3 the same and slots 2 and 4 the same)

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

NOTE: Please make sure socket 1 is populated, otherwise the system will not boot, also please make sure the DIMM socket 1,3 and 2,4 should be the same size, otherwise the capacity will not be correct.

Following are memory options available from HP:

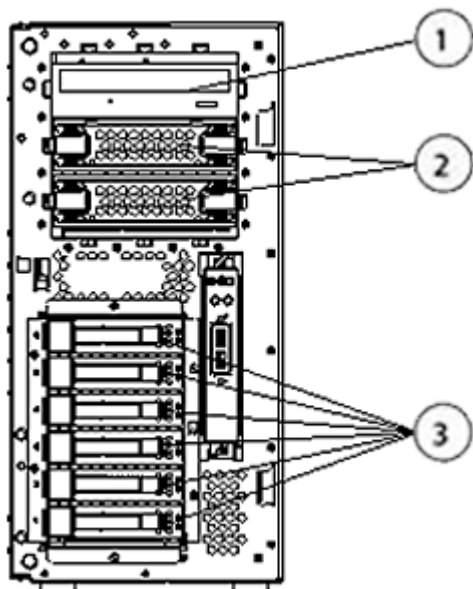
512MB FBD PC2-5300 1x512MB Kit	413507-B21
1GB FBD PC2-5300 2X512MB Kit	397409-B21
2GB FBD PC2-5300 2X1GB Kit	397411-B21
4GB FBD PC2-5300 2X2GB Kit	397413-B21

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Storage

Non-Hot Plug SATA or Hot Plug SAS/SATA



- 1 48x IDE CD-ROM
- 2 Removable Media Bay (1.6" each)
- 3 Six Hot Plug SAS/SATA or Six Non-Hot Plug SATA Drive Bays

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
IDE CD-ROM Drive	Up to 2	1 or 2	Integrated IDE

Hard Drives

SAS (Hot Plug Drives)

	Quantity Supported	Position Supported	Controller
300GB SAS 15K SPP SP	Up to 6	3 (Drive slots 1-6)	HP 8 Internal Port SAS Host Bus Adapter with RAID Optional Smart Array E200
146GB SAS 15K SPP SP			
72GB SAS 10K SPP SP			
36GB SAS 10K SPP SP			

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Storage

Hard Drives

SATA

	Quantity Supported	Position Supported	Controller
750 GB	Up to 6	3	Integrated 6 port SATA Adapter
500 GB		(Drive slots 1-6)	Optional HP 8 Internal Port SAS Host Bus Adapter with RAID
250 GB			
160 GB			
80 GB			

NOTE: In order to realize Hot-Plug functionality in the HP SATA Models of the ML150 G3, the 8 Port Internal Port SAS Host Bus Adapter with RAID (P/N 347786-B21) must be purchased and installed.

Maximum Storage Capacity - SAS Models

Internal	1.8TB (6 x 300 GB SAS hard drives)
Total	1.8TB (6 x 300 GB SAS hard drives)

Maximum Storage Capacity - SATA Models

Internal	4.5TB (6 x 750 GB SATA drives)
Total	4.5TB (6 x 750 GB SATA drives)

Tape Drives

NOTE: A SCSI controller needs to be purchased to operate internal SCSI devices in the SATA Models.

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following: <http://h18000.www1.hp.com/products/quickspecs/Division/10233.html> (Worldwide)

	Position Supported	Controller	Controller/HBA Option Kit Part Number
Internal USB Tape Drives DAT 72 USB DAT 160 USB	2	USB 2.0 port	N/A
External USB Tape Drives DAT 72 USB DAT 160 USB	External	USB 2.0 port	N/A
Internal SCSI Tape Drives DAT 72 DAT 160 LTO-2 Ultrium 448 LTO-3 Ultrium 920	2	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
External SCSI Tape Drives DAT 72 DAT 160 LTO-2 Ultrium 448 LTO-3 Ultrium 920	External	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Storage

Internal SAS Tape Drives DAT 160 LTO-2 Ultrium 448 LTO-3 Ultrium 920	2	HP 8 Internal Port SAS Host Bus Adapter with RAID HP SC44Ge Host Bus Adapter	347786-B21 416096-B21
External SAS Tape Drives DAT 160 LTO-2 Ultrium 448 LTO-3 Ultrium 920		HP SC44Ge Host Bus Adapter	416096-B21
HP StorageWorks D2D Backup Systems D2D110 D2D120 D2D130	External	Embedded Network Controller	N/A

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Power Specifications

Part Number	402075-001
Spare Kit	407730-001
Operational Input Voltage Range (Vrms)	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 G3 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 SAS/SATA
	(1) CD-ROM
	(0) DVD-ROM
	(3) PCI-X 64 100MHz
	(1) x4 PCI-E
	(1) x8 PCI-E



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Power Specifications

	(1) PCI 32 3.3V (1) Lights-Out Remote Management (1) 650 watts power supply
Power Cords (13 Cord Sets)	
Country	Power Cord Part Number(s)
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

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Technical Specifications

System Unit	Dimensions (HxWxD)	17.83 in x 8.62 in x 25.59 in (45.3 x 21.9 x 65.0 cm)		
	Weight (approximate)	69 lb (31.3 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 11.6A at 115VAC, 5.5A at 220VAC		
	BTU Rating	2218 BTU		
	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 140° F (-40° to 60° C)	
	Relative Humidity (non-condensing)	Operating	10% to 90%	
		Non-operating**	10% to 95%	
	Acoustic Noise	Idle	38 dBA	
(Fixed Disk Drives Spinning)				
L WAd (BELS)		5.5		
	Operating (Random Seeks to Fixed Disks)	43 dBA		
	L WAd (BELS)	6.0		

* All temperature ratings shown are for sea level. An altitude derating of 1° C per 304.8 m (1.8°F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048m (10,000 ft) or 70 Kpa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3KPa/4.4 psia. System performance may be reduced if operating with a fan fault or above 30C.

** Storage maximum humidity of 90% is based on a maximum temperature of 45° C (113° F).
Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

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)

HP 8 Internal Port SAS Host Bus Adapter with RAID (SAS Model only)	Dimensions (excluding bracket)	6.6 x 2.5 x 0.6 in (16.8 x 6.4 x 1.6 cm)
	Disk Drive and Enclosure Protocol Support	3 Gbps SAS (Serial Attached SCSI) 1.5 Gbps SATA (Serial Advanced Technology Attachment)
	Architecture	64-bit
	SAS Connectors	2 internal SFF8484 x4 Wide SAS Connectors 12 Gbps per x4 Wide SAS Port (4 x 3 Gbps)
	Data Transfer Method	64-bit wide, PCI-X 133 MHz (1 GB/s maximum bandwidth)
	PCI Bus Speed	PCI-X-133 and 3.3 volt PCI compatibility only
	PCI	PCI-X and 3.3 volt PCI compatibility only
	Simultaneous Drive Transfer Ports	2 x4 Wide SAS Connectors
	Port Transfer Rate	12 Gb/s per x4 Wide SAS Port (4 x 3 Gb/s)
	Software upgradeable Firmware	Yes



QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Technical Specifications

Maximum Capacity	576GB (8 x 72GB)
Memory Addressing	64-bit, supporting servers memory greater than 4 GB
Logical Drives Supported	Up to 2 Logical Volumes Up to 10 drives total in all RAID volumes Up to 2 Drives per RAID 1 Up to 8 Drives per RAID 0
RAID Support	RAID 1 (Mirroring) RAID 0 (Striping)
Upgradeable Firmware	4-MB flashable ROM
Disk Drive and Enclosure Protocol Support	3 Gbps SAS and 1.5 Gbps SATA

Embedded HP NC7781 Gigabit Server Adapter (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	
	Network Transfer Rate	10/100/1000 Mbps, Half- and full-duplex	Auto-negotiated speeds of 10/100/1000 Mbps in both half and full duplex
	Connector	RJ-45 connector	
	Cable Support	Category 5 or higher UTP wiring	

HP Embedded SATA RAID Controller	Dimensions	N/A (embedded)	
	Disk Drive and Enclosure Protocol Support	1.5 Gbps SATA	
	Architecture	64-bit	
	SAS Connectors	6 internal x1 SATA connectors	
	Software Upgradeable Firmware	Yes	
	Maximum Capacity	1TB	
	Memory Addressing	6 GB (maximum)	
	Logical Drives Supported	2 (maximum)	
	RAID Support	RAID 1 (Mirroring) RAID 0 (Striping)	

QuickSpecs

HP ProLiant ML150 Generation 3 (G3)

Technical Specifications

Environment-friendly Products and Approach

End-of-life Management and Recycling

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

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

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