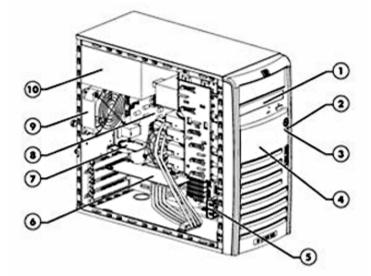
\odot

2

3

Overview



Front View:

- 1. DVD-ROM Drive
- 2. Power LED
- 3. Drive Activity LED
- 4. Front Bezel
- 5. Full Length Card Retainer
- 6. HDD Controller Card (Optional)
- HP ProLiant100 G5 Lights-Out 100c Remote Management Card port (Optional)
- 8. System Board
- 9. Rear System Fan
- 10. 365W Power Supply

Rear View:

1. Power Supply Outlet

(12)

1

(10)

9

8

765

- 2. Rear System Fan
- 3. PCI Slot Cover Lock
- 4. PCI Slot Covers
- 5. HP ProLiant100 G5 Lights-Out 100c Remote Management Card port(Optional)
- 6. LAN Port (RJ-45)
- 7. Rear USB 2.0 Ports
- 8. Serial Port
- 9. VGA Port
- 10. PS/2 Keyboard Port
- 11. PS/2 Mouse Port
- 12. Power Supply Unit (PSU) Fan

What's New

• AMD Opteron ™ 1354 processor available in ready-built configuration



Overview

At A Glance

- Processor:
 - O AMD Opteron[™] processors Model 1300 series
 - AMD Opteron[™] processors Model 1200 series
 - AMD Athlon[™] processor Model 4450B
 - AMD Athlon™ processor Model 1640B
- Memory:
 - o 512 MB or 1GB Standard/8 GB Maximum of PC2-6400 DDR2 Unbuffered ECC
- Storage Controller:
 - O SATA Models: 4 Port SATA controller with Embedded RAID on Motherboard (RAID 0, 1, 5)
- Internal Drive Support:
 - O 4 HDD Support:
 - 3.0TB SATA max storage (4 x 750GB)
 - 1.8TB SAS max storage (4 x 450GB)
- Network Controller:
 - O Embedded NC105i PCI Express Gigabit Ethernet Server Adapter
- Expansion Slots:
 - Slot 1: PCI 32-bit/33MHz PCI at 3.3V
 - O Slot 2: PCI-Express x1 connector with x1 link
 - O Slot 3: PCI-Express x8 connector with x8 link
 - Slot 4: PCI-Express x16 connector with x16 link
- USB 2.0 Ports:
 - O Eight (8) total USB Ports
 - 2 Front
 - 4 Rear
 - 2 Internal (one for tape, one for standard USB device)
- Management:
 - Standard Lights Out 100 IPMI 2.0 reporting
 - O Optional HP ProLiant 100 G5 Lights Out 100c Remote Management Card
 - Standard HP ProLiant ML115 G5 Easy Set-Up CD
- Form Factor:
 - O Micro ATX Tower (4U)
- Warranty:
 - O 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. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. SATA hard drives have a one year warranty. SAS Enterprise drives have a three-year warranty.

NOTE: Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response. (3-1-1 warranty offered in AP only, excluding Japan). Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html



Standard Features

specifications, please v	visit: http://h18004.wv	et that describes this product and informs you of the essential capabilities and ww1.hp.com/products/quickspecs/DS_00136/DS_00136.pdf				
Processor One of the following	Quad-Core Processors					
depending on Model	AMD Opteron™ Processor Model 1354 (2.2 GHz, 75W, 2MB)					
	•	Processor Model 1352 (2.1 GHz, 75W, 2MB) rough Configure-To-Order only. See Factory Integrated Models section for more				
	Dual-Core Proce	ssors				
		Processor Model 1222 (3.0 GHz, 95W, 2MB) rough Configure-To-Order only. See Factory Integrated Models section for more				
		Processor Model 1218 (2.6 GHz, 95W, 2MB) rough Configure-To-Order only. See Factory Integrated Models section for more				
		ocessor Model 4450B (2.3 GHz, 45W, 1MB) rough Configure-To-Order only. See Factory Integrated Models section for more				
	Single-Core Processors AMD Athlon™ Processor Model 1640B (2.7 GHz, 45W, 512KB) NOTE: Offered through Configure-To-Order only. See Factory Integrated Models section for more details.					
Cache Memory	2MB Level 2 cache (AMD Opteron™ 1354, 1352, 1222, and1218 models)					
One of the following	1MB Level 2 cach	ne (AMD Athlon™ 4450B models)				
depending on Model	512KB Level 2 cache (AMD Athlon™ 1640B models)					
Chipset	nVidia NFP3400					
Memory Protection	ECC					
Memory	Туре	PC2-6400 unbuffered DDR2 ECC 800MHz				
	Standard	512 MB/1GB				
	Maximum	8 GB				
Network Controller	Embedded NC10	5i PCI Express Gigabit Ethernet Server Adapter				



Standard Features

Expansion Slots #	Technology B	us Width	Connector Width	Bus Number*	Device Number	Form Factor	NOTES
1	PCI	32-bit	N/A	1	8	Full height slot	33MHz/3.3V
2	PCI-e	X1	X1	4	0	Full height slot	
3	PCI-e	X8	X8	2	0	Full length, full height slot	
4	PCI-e	X16	X16	12	0	Full length, full height slot	
	*Default bus ass assignment num ** Slots are enur Device ID by bus *** Indicates the NOTE: PCI-X Int	ber. nerated dif s (starting v number of	ferently based with the lowest physical electr	on OS. MS O bus). ical lanes runr	S's enumerat	e from lowest to	
Storage Controller	Integrated 4 port NOTE: Embedde available. HP ProLiant ML ² http://h20000.wv	ed RAID se	etup instruction Server User G	s are located i uide:	n the User Gu		·
Storage	Optical Drive Hard Drives		SATA DVD-ROI 60GB SATA 72				
Maximum Internal	Туре						
Storage	Non-Hot Plug S Non-Hot Plug S		1.8TB 3.0TB		450GB) 750GB)		
Interfaces	Parallel	C)				
	Serial	1					
	Pointing Device PS2)	(Mouse, 1					
	Graphics	1					
	Keyboard (PS2)	1					
	USB 2.0 Ports	N E N r	NOTE: Internal DAT Tape Drive NOTE: Please s egarding USB s	USB ports are s see the followir support:	optimal for thing URL for ad	for USB Tape of the attachment of ditional information rs/platforms/usl	f HP USB
	Network RJ-45 (Ethernet)	1					
	Management	ŀ	IP ProLiant G5	Lights-Out 10	0c Remote M	anagement por	t (Optional)



Standard Features		
Graphics	32MB shared supporting	1600x1200x16M resolution
Form Factor	Micro ATX Tower (4U)	
Remote Management	Lights-Out 100c	Lights Out LO100c is a family of Remote Management Card (RMC) for ProLiant 100 series servers that do not have embedded LO100i. The LO100c has all the features of the LO100i Advanced license and allows customers, or their service providers, to remotely manage ProLiant servers over a LAN or the Internet from anywhere, anytime regardless whether the server is located in the same building, across town, or around the globe.
		With LO100c, users can acquire complete remote control with Virtual KVM (graphical hardware-based, remote console). Users can also access the server's serial console, control system power, update system firmware and software, as well as monitor system environmental conditions. The LO100c remote management card can be accessed from a web browser or command line interface. This virtual "at-the-server" functionality means administrators stay in control of remote HP ProLiant 100 series servers.
		The HP Lights-Out100c consists of a management processor and firmware that provides cost-effective, entry-level lights-out functionality, basic system board management functions, and diagnostics. NOTE: For more information, please refer to the QuickSpecs for the LO100c found at: http://h18004.www1.hp.com/products/servers/management/ remotemgmt/lightsout100/index.html
Core Infrastructure Management	HP ProLiant ML115 G5 Easy Set-up CD	The HP ProLiant Easy Set-up CDs optimize single-server setup, providing a simple way to deploy reliable and consistent server configurations. The HP ProLiant 100 Series Easy Set-up CD ship standard with the ML115 G5.
		This CD offers essential single-server deployment tools for HP ProLiant 100 series servers that simplify HP entry server setup, providing a repeatable way to deploy reliable and consistent single-server configurations. The HP ProLiant Easy Set-up CDs assist with the OS installation process by preparing the system for installing "off-the-shelf" versions of Windows operating system software and automatically integrating optimized HP ProLiant server software drivers and utilities. Users enjoy the following benefits:
		 An easy-to-use, intuitive graphical interface that prepares your system for the OS installation process. Integration of key server software drivers with assisted installation. Dependency and validity checks to ensure that all supported ProLiant software can be installed.
		For the latest information about other related software; please visit the HP Insight Control Management Software Portfolio at: http://h18004.www1.hp.com/products/servers/management/ and the HP ProLiant Easy Set-up CD Web site at www.hp.com/servers/easysetup



Standard Features					
	Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web- based email subscription service that provides software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.			
	ROMPaq software and latest drivers	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options, available through download from the software and drivers website pages at http://www.hp.com/go/support.			
Industry Standard	ACPI V2.0 Compliant				
Compliance	PCI 2.3 Compliant				
	PXE Support				
	WOL Support				
	IPMI 2.0 compliance				
Manageability	Standard Lights Out 100 1PMI 2.0 reporting Optional HP ProLiant G5 Lights-Out 100c Remote Management Card Standard HP ProLiant ML115 G5 Easy Set-Up CD				
Security	Power-on password				
	Setup password				
	USB lock				
Server Power Cords	6' country specific, lowli	ne NEMA power cord.			
Power Supply	365 Watts				
System Fans	1 - Non-redundant syste	m fan shipped standard			
	1 - Non-redundant CPU	heatsink fan shipped standard			
Operating Systems an	nd Microsoft Windows Serv	er			
Virtualization Softwar	e Red Hat Enterprise Linu SUSE Linux Enterprise				
	Virtualization Software a	tion on HP's Certified and Supported ProLiant Servers for OS and nd latest listing of software drivers available for your server, please visit http://www.hp.com/go/supportos and our driver download page			

http://www.hp.com/support/ML115G5



Standard Features	
Factory Express Portfolio for Servers and Storage	HP Factory Express offers configuration, customization, integration and deployment services for HP servers and/or storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.
	Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging and custom packaging HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers, as well as, the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.
	For more information on Factory Express services for your specific server model please contact your sales representative or go to http://www.hp.com/go/factory-express.
HP Enterprise Configurator	The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance.
Service and Support	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



Models

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

SATA Models

HP ProLiant ML115 G5 Opteron 1354, NHP- SATA (1P) 570335-xx1	Processor	(1) AMD Opteron™ 1354 (2.2 GHz, 75W, 2MB)
	Cache Memory	2MB Level 2
	Memory	1GB PC2-6400 ECC (DDR2-800MHz) (1 x 1GB)
	Storage Controller	HP Embedded 4 Port SATA Controller with Embedded RAID (0, 1, 5)
	Hard Drive	1x160GB NHP SATA HDD
	Internal Storage	Maximum 3.0TB (4 x 750GB) SATA
	Optical Drive	16x SATA DVD-ROM
	Form Factor	Micro ATX Tower (4U)

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



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: FIO indicates that this option is a Factory Installable Option.Step 1: Base Configuration
ModelsHP ProLiant ML115 G5 NHP CTO Chassis457767-B21

Factory Integrated Models ship with:

Embedded NC105i PCI Express Gigabit Ethernet Server Adapter HP ProLiant ML115 G5 Easy Set-Up CD Keyboard and Mouse

Power cord

Micro ATX Tower (4U)

NOTE: HP SATA Drive Models are limited to 3.0TB support.

NOTE: On SATA models with embedded RAID, setup instructions are located in the User Guide. CTO RAID set-up is not available. HP ProLiant ML100 Series Server User Guide: http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00260539/c00260539.pdf

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

Processors	Quad-Core Processor	
	AMD Opteron™ Processor Model 1354 (2.2 GHz, 75W, 2MB) Option Kit, FIO	490606-L21
	AMD Opteron™ Processor Model 1352 (2.1 GHz, 75W, 2MB) Option Kit, FIO	480294-L21
	Dual-Core Processor	
	AMD Opteron™ Processor Model 1222 (3.0 GHz, 95W, 2MB) Option Kit, FIO	480293-L21
	AMD Opteron™ Processor Model 1218 (2.6 GHz, 95W, 2MB) Option Kit, FIO	480292-L21
	AMD Athlon™ Processor Model 4450B (2.3 GHz, , 45W,1MB) Option Kit, FIO	480298-L21
	Single-Core Processors	
	AMD Athlon™ Processor Model 1640B (2.7 GHz, 45W, 512KB) Option Kit, FIO	480297-L21
Memory	2 GB Unbuffered PC2-6400 ECC DIMM (1 x 2 GB)	450260-B21
	1 GB Unbuffered PC2-6400 ECC DIMM (1 x 1 GB)	450259-B21
	512 MB Unbuffered PC2-6400 ECC DIMM (1 x 512 MB)	450258-B21



Configuration Information-Factory Integrated Models

Optical Drives	HP Half-Height SATA DVD ROM Kit	447326-B21			
	72GB SAS 3.5" 15K NHP	432095-B21			
	146GB SAS 3.5" 15K NHP	432093-B21			
	300GB SAS 3.5" 15K NHP	431950-B21			
	146GB 3G NHP 15K 3.5" DP SAS ENT HDD	417855-B21			
	300GB 3G NHP 15K 3.5" DP SAS ENT HDD	417950-B21			
	450GB 3G NHP 15K 3.5" DP SAS ENT HDD	454234-B21			
	400GB 3G NHP 10K 3.5" DP SAS ENT HDD	508232-B21			
	SAS Non-Hot Plug 3.5" Enterprise (ENT) Drives				
	HP 160GB 3G SATA 7.2K NHP 3.5" Entry (ETY) HDD	458947-B21			
	SATA Non-Hot Plug Entry (ETY) Drives				
	HP 250GB 3G SATA 7.2K NHP 3.5" MDL HDD	458939-B21			
	HP 500GB 3G SATA 7.2K NHP 3.5" MDL HDD	458941-B21			
	HP 750GB 3G SATA 7.2K NHP 3.5" MDL HDD	462595-B21			
	SATA Non-Hot Plug Midline (MDL) Drives				
	HP 160GB 1.5G SATA 7.2K NHP 3.5" HDD	411275-B21			
	HP 250GB 1.5G SATA 7.2K NHP 3.5" HDD	411276-B21			
	HP 500GB 1.5G SATA 7.2K NHP 3.5" HDD, FIO	404469-B21			
	SATA Non-Hot Plug Drives				
	transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.				
	HBA/controller, and the server backplane) should operate at the same data				
Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the				

Step 3: Choose Additional Factory Integratable Options

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

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

 Storage Controller
 HP SC40Ge Host Bus Adapter, FIO
 449176-B21

 NOTE: When using the SC40Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required.
 NOTE: Factory Integrated Only.

 Operating Systems
 Pre-install Microsoft Windows 2003 SBS Standard Edition

 MS W2003 SBS R2 Std 1XX FIO Eng SW
 432564-xx1

 MS W2003 SBS R2 Prm 1XX FIO Eng SW
 432566-xx1



Configuration Information-Factory Integrated Models

Country Code Key	xx=01	Australia
	xx=03	UK
	xx=04	Germany
	xx=05	France
	xx=06	Italy
	xx=07	Spanish
	xx=20	Brazil
	xx=21	Hungarian
	xx=22	Czech
	xx=24	Polish
	xx=33	Dutch
	xx=37	AP
	xx=42	Euro
	xx=AA	PRC
	xx=29	Japan
	xx=AB	Taiwan
	xx=AD	Korea

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options and Additional Options" section below. **NOTE:** Some options may not be factory integratable. Please contact your local sales representative for additional information



Core Options		
Memory	2 GB Unbuffered PC2-6400 ECC DIMM (1 x 2 GB)	450260-B21
	1 GB Unbuffered PC2-6400 ECC DIMM (1 x 1 GB)	450259-B21
	512 MB Unbuffered PC2-6400 ECC DIMM (1 x 512 MB)	450258-B21
Optical Drives	HP Half-Height SATA DVD ROM Kit	447326-B21
	HP Half-Height SATA DVD-RW Optical Kit	447328-B21
Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.	
	3.5" SATA Non-Hot Plug Drives	
	HP 250GB 1.5G SATA 7.2K NHP 3.5" HDD	411276-B21
	HP 160GB 1.5G SATA 7.2K NHP 3.5" HDD	411275-B21
	NOTE: SATA drives have a 1 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/11940_div/11940_div.html (Worldwide)	
	SATA Non-Hot Plug Midline (MDL) Drives	
	HP 750GB 3G SATA 7.2K NHP 3.5" MDL HDD	462595-B21
	HP 500GB 3G SATA 7.2K NHP 3.5" MDL HDD	458941-B21
	HP 250GB 3G SATA 7.2K NHP 3.5" MDL HDD	458939-B21
	SATA Non-Hot Plug Entry (ETY) Drives	
	HP 160GB 3G SATA 7.2K NHP 3.5" Entry (ENT) HDD	458947-B21
	NOTE: SATA drives have a 1 year warranty. Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)	
	SAS Non-Hot Plug 3.5" Enterprise (ENT) Drives	
	400GB 3G NHP 10K 3.5" DP SAS ENT HDD	508232-B21
	450GB 3G NHP 15K 3.5" DP SAS ENT HDD	454234-B21
	300GB 3G NHP 15K 3.5" DP SAS ENT HDD	417950-B21
	146GB 3G NHP 15K 3.5" DP SAS ENT HDD	417855-B21
	300GB SAS 3.5" 15K NHP	431950-B21
	146GB SAS 3.5" 15K NHP	432093-B21
	72GB SAS 3.5" 15K NHP	432095-B21
	Please see QuickSpecs for Technical and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)	
Communications	HP NC110T PCI Express Gigabit Server Adapter	434905-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	



Additional Options		
Remote Management	HP ProLiant 100 G5 Lights-Out 100c Remote Management Card NOTE: Supports HP ProLiant DL180 G5, ML110 G5, ML115 G5 and ML150 G5 servers, NOTE: For additional information on Lights-Out 100c Remote Management Card, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12468_div/12468_div.html	445513-B21
Storage Controllers	SAS HBA HP SC44Ge Host Bus Adapter NOTE: When using the SC44Ge with SATA Hard Drives, 1.5G SATA Hard Drives are required. Transfer rate: 1.5 Gb/s SATA, 3 Gb/s SAS. NOTE: Supports RAID 0,1. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18004.www1.hp.com/products/quickspecs/12617_div/12617_div.html (SC44Ge HBA) Smart Array E200 Controller	416096-B21
	HP Smart Array E200/128 BBWC Controller NOTE: Supports RAID 0,1,1+0, 5/BBWC. NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12460_div/12460_div.html (Smart Array E200 Controller) NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12460_div/12460_div.html (Smart Array E200 Controller) NOTE: SAS Storage Controllers supports both SATA and SAS drives. NOTE: On SATA models with embedded RAID, setup instructions are located in the User Guide. CTO RAID set-up is not available. HP ProLiant ML100 Series Server User Guide: http://h20000.www2.hp.com/bc/docs/support/SupportManual/ c00260539/c00260539.pdf	411508-B21
	HP SAS/SATA 4-Port Cable NOTE: The purchase of a SAS Storage Controller requires the purchase of HP SAS/SATA 4-Port Cable (P/N 430479-B21)	430479-B21



Additional Options						
Tape Drives	NOTE: Installation of SCSI internal tape drives in a ML115 G5 model requires SCSI controller kit (PN: 412911-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 40 USB Internal Tape Drive (Carbonite)	DW022A				
	HP StorageWorks DAT 72 USB Internal Tape Drive (Carbonite)	DW026A				
	DAT SAS Tape Drives					
	HP StorageWorks DAT 160 SAS Internal Tape Drive	Q1587A				
	DAT SCSI Tape Drives					
	HP StorageWorks DAT 40 SCSI Internal Tape Drive (Carbon)	C5686C				
	HP StorageWorks DAT 72 SCSI Internal Tape Drive (Carbon)	Q1522B				
	HP StorageWorks DAT 160 SCSI Internal Tape Drive (Carbon)	Q1573A				
	LTO Ultrium SAS Tape Drives					
	HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive	DW085A				
Disk-Based Backup	RDX Removable Disk Backup					
	HP StorageWorks RDX160 Internal Removable Disk Backup System NOTE: 160GB of Disk Storage.	AJ765A				
	HP StorageWorks RDX320 Internal Removable Disk Backup System NOTE: 320GB of Disk Storage.	AJ767A				
	NOTE: Please see the HP RDX Removable Disk Backup System QuickSpecs for additional information:					
	http://h18000.www1.hp.com/products/quickspecs/13036_div/13036_div.html					
	D2D Backup					
	HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit NOTE: 2TB of Disk Storage.	EH924A				
	HP StorageWorks D2D130 Backup System with LTO-3 Ultrium 920 SAS Tape Drive	EH952A				
	NOTE: 3TB of Disk Storage.					
	HP StorageWorks D2D2504i Backup System	EJ002A				
	NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information: http://www.hp.com/go/d2d					



Additional Options

HP ProLiant ML115 Generation 5

Uninterruptible Power	HP T1000 G3 UPS	
Systems - Tower	HP T1000 G3 UPS, INTL	AF449A
	HP T1000 G3 UPS, NA/JPN	AF448A
	NOTE: Please see QuickSpecs for Technical Specifications and additional	
	information:	
	http://h18000.www1.hp.com/products/quickspecs/12506_div/12506_div.html	
	HP T750 G2 UPS	
	HP T750 G2 UPS, INTL	AF447A
	HP T750 G2 UPS, NA/JPN	AF446A
	NOTE: Please see QuickSpecs for Technical Specifications and additional information:	
	http://h18000.www1.hp.com/products/quickspecs/12192_div/12192_div.html	
	HP 1.83m 10A C13 CH Power Cord	AF565A
	HP 1.83m 10A C13 DK Power Cord	AF566A
	HP 1.83m 10A C13 EU Power Cord	AF568A
	HP 1.83m 10A C13 IL Power Cord	AF564A
	HP 1.83m 10A C13 UK Power Cord	AF570A
	HP 1.83m C13 IT/CL Power Cord	AF571A
	HP 2m C13 JPN Power Cord	AF572A
	HP Power Cord 2.5m 10A C13-Argentina	AF558A
	HP Power Cord 1.83m 10A C13-China	AF557A
	HP Power Cord 1.83m 10A C13-UL DOM	AF556A
Rack Kits	Monitor/Utility Shelf	253449-B21
	HP ProLiant Rack Enabling Kit	417705-B21
HP KVM Switch	HP 1x4 Console Switch	AF611A
Options	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.	
USB Options	HP 1GB USB 2.0 Floppy Drive Key	442085-B21
	1.44MB External USB Floppy Drive	DC141B
	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP USB 04 Standard Keyboard	DT528A#xxx
	NOTE: When installing a Windows OS Environment and configuring the	
	embedded SATA RAID, AHCI, or SAS controllers, installation of a driver from a	
	diskette device is required. HP's 256MB or 1GB USB 2.0 floppy drive key (P/N:	
	or 442085-B21) is required on the ML115 G5 to accomplish this operation. A	
	USB drive key may not work to complete driver installation.	



Service and Support, HP Care Pack, and Warranty Information

Service and Support Offerings (HP Care Pack Services)	Extended Care - Minimum recommended service support level Next Business Day On-Site Service, 9-Hour x 5-Day Coverage, 3 Years, Electronic	U4433E
	Committed Care - Cost-effective service options designed to extend HP Services committed response and guaranteed fix times, designed to speed problem resolution.	
	Same Business Day On-Site Server, 13-Hour x 5-Day Coverage, 3 Years, Electronic	U4434E
	Committed Response - Optimum service level to increase IT Performance and availability	
	4-Hour On-Site Service - 24-Hour x 7-Day Coverage, 3 Years, Electronic	U4435E
	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.	
	Hardware Installation, Electronic (install services)	U4444E
	NOTE: For more information, customer/resellers can contact http://www.hp.com/services/carepack.	



Memory

HP ProLiant ML115 G5 Models

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

Standard Memory

512 MB of PC2-6400 DDR2 SDRAM running at 800MHz with ECC capabilities memory installed (1 x 512 MB SDRAM DIMM)

1 GB of PC2-6400 DDR2 SDRAM running at 800MHz with ECC capabilities memory installed (1x 1 GB SDRAM DIMM)

Standard Memory Plus Optional Memory

Up to 5 GB memory is available with the optional installation of PC2-6400 un-buffered ECC DDR2 SDRAM DIMM Memory kits.

Standard Memory Replaced with Optional Memory

Up to 8 GB of memory is available with the removal of the standard 512 MB/1GB of memory and the optional installation of 4 x 2 GB PC2-6400 un-buffered ECC DDR2 SDRAM DIMM Memory kits.

NOTE: The below chart does not represent all possible memory configurations.

NOTE: For best performance, it is recommended that customers install memory in identical pairs. Slots 1A and 2A are interleaving pair. Slots 3B and 4B are interleaving pair.

Me	mory	Slot				
		1A	2A	3B	4B	
Standard	512 MB	512 MB	Empty	Empty	512 MB	
Optional	5 GB	512 MB	512 MB	2 GB	2 GB	
Maximum	8 GB	2 GB	2 GB	2 GB	2 GB	

Following are memory options available from HP:

2 GB Unbuffered PC2-6400 ECC DIMM (1 x 2 GB)

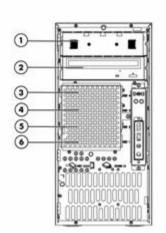
1 GB Unbuffered PC2-6400 ECC DIMM (1 x 1 GB)

512 MB Unbuffered PC2-6400 ECC DIMM (1 x 512 MB)

450260-B21 450259-B21 450258-B21



Storage



- 1 Removable Media Bays (1.6" each)
- 2 DVD-ROM
- 3, 4, 5, 6 Four (4) Non-Hot Plug Drive Bays

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
DVD Drive	2	1 or 2	Integrated SATA
DVD-RW Drive	2	1 or 2	Integrated SATA

Hard Drives (SATA Models only)

3.5" SATA Non-Hot Plug Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

·	Quantity Supported	Quantity Supported	Controller
500GB 1.5G SATA 7.2K 250GB 1.5G SATA 7.2K 160GB 1.5G SATA 7.2K		3-6	4 Port SATA controller with Embedded RAID on Motherboard (0,1,5)
3.5" SATA Non-Hot Plu	g Midline (MDL)	Drives	
	Quantity Supported	Quantity Supported	Controller
750GB 3G SATA 7.2K 500GB 3G SATA 7.2K 250GB 3G SATA 7.2K	Up to 4	3-6	4 Port SATA controller with Embedded RAID on Motherboard (0,1,5)
3.5" SATA Non-Hot Plug	g Entry (ETY) Dr	ives	
	Quantity Supported	Quantity Supported	Controller
160GB 3G SATA 7.2K	Up to 4	3-6	4 Port SATA controller with Embedded RAID on Motherboard (0,1,5)

Hard Drives (SAS Models only) SAS Non-Hot Plug 3.5" Enterprise (ENT) Drives



Storage

	Quantity Supported	Position Supported	Controller
400GB 3G SAS 10K 450GB 3G SAS 15K 300GB 3G SAS 15K 146GB 3G SAS 15K	Up to 4	3-6	HP 8 Internal Port SAS HBA with RAID (0,1)
Maximum Storage Ca	apacity		
Internal	SATA	3.0TB	(4 x 750GB)
	SAS	1.8TB	(4x 450GB)

Tape Drives and Disk-Based Backup

NOTE: Installation of SCSI tape drives in a ML115 G5 model requires SCSI controller kit (PN: 412911-B21). **NOTE:** For a complete listing of compatible tape and disk-based backup offerings, please visit: www.hp.com/go/connect.

	Position Supported	Controller	Controller/HBA Option Kit Part Number
Internal USB Tape Drives DAT 40 USB DAT 72 USB DAT 160 USB	2	USB 2.0 port	N/A
External USB Tape Drives DAT 40 USB DAT 72 USB DAT 160 USB	External	USB 2.0 port	N/A
Internal SAS Tape Drives DAT 160 SAS LTO-2 Ultrium 448 SAS LTO-3 Ultrium 920 SAS	2	HP SC44Ge Host Bus Adapter	416096-B21
External SAS Tape Drives DAT 160 SAS LTO-2 Ultrium 448 SAS LTO-3 Ultrium 920 SAS	External	HP SC44Ge Host Bus Adapter	416096-B21
Internal SCSI Tape Drives DAT40 DAT 72 DAT 160	2	HP SC11Xe Host Bus Adapter	412911-B21
External SCSI Tape Drives DAT40 DAT 72 DAT 160	External	HP SC11Xe Host Bus Adapter	412911-B21
HP StorageWorks RDX Removable Disk Backup System RDX160 RDX320	2	USB 2.0 Port	N/A



N/A

Storage

 HP StorageWorks D2D
 External
 Embedded Network Controller

 Backup System
 D2D120

 D2D130
 D2D130



Power Specifications

Part Number

457694-001

Operational Input Voltage Range 100 to 127 and 200 to 240 V auto ranging (Vrms)

Frequency Range (Nominal) (Hz) 50 to 60 Hz

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	N/A	365	N/A	N/A	365	N/A
Nominal Input Current (A rms)	N/A	6	N/A	N/A	3	N/A
Max Rated Input Wattage Rating (Watts)	N/A	553	N/A	N/A	517	N/A
Max. Rated VA (Volt-Amp)	N/A	N/A	N/A	N/A	N/A	N/A
Efficiency (%)	N/A	>65%	N/A	N/A	>65%	N/A
Power Factor	N/A	N/A	N/A	N/A	N/A	N/A
Leakage Current (mA)	0.5mA (at 60HZ)	N/A	N/A	N/A	N/A	N/A
Maximum Inrush Current (A peak)	N/A	No component was damaged and input fuse shall not blow	N/A	N/A	No component was damaged and input fuse shall not blow	N/A
Maximum Inrush Current duration (mS)	N/A	N/A	N/A	N/A	N/A	N/A



System Specifications

	Power**
HP ProLiant ML115 G5 Fully Configured	(see**)
Fully Loaded System output Wattage (W)	365W
Fully Loaded System Input Current (A rms)	6A @ 115V, 3A @ 230V
Fully Loaded System Thermal (BTU- Hr)	1885 BTU
Fully Loaded System VA (Volt-Amp)	N/A
System Leakage with all power supplies loaded (mA)	N/A
System Inrush Current with all power supplies loaded (A)	N/A
Power cord requirements	Nema 5-15P to IEC320-C13
	IEC320-C13 to IEC320-C14
	**Power shown is for a fully configured system consisting of (1) CPU, (4) double-sided DIMMs, (4) HDDs, (1) DVD-ROM, (4) PCI cards, and (1) power supply.
Power Cords (13 Cord Sets)	Power Cord Part Number
Country	
APD	100614-009, 100613-008, 139867-005, 397138-002 (India)
Brazil	285052-001
Australia	100661-001
Euro	100614-009
France	100614-009
Germany	100614-009
Japan	139867-005
PRC	286496-001
UK	100613-008
US	121565-001



Technical Specifications

System Unit	Dimensions (HxWxD) (with feet)	14.5 x 6.9 x 16.2 in (36.7	7x 17.5 x 41.2 cm)
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	31.35 lb (14.22 kg)
		Minimum (one hard drive, power supply, and processor installed)	25.75 lb (11.68 kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 — 132 VAC, 180 – 264 VAC
		Rated Input Current	6 A (at 110 VAC), 3 A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	365 W (at 100 VAC), 365 W (at 200 VAC)
	BTU Rating	Maximum	1885 BTU/hr (at 100 VAC), U/hr (at 200 VAC)
	Power Specifications		power ratings use the Power Advisor which is ool located at URL: www.hp.com/go/proliant-
	Power Supply Output (per power supply)	Rated Steady-State Power	365 W (at 100 VAC), 365 W (at 200 VAC)
		Maximum Peak Power	385 W (at 100 VAC), 385 W (at 200 VAC
	• • • • •		
	System Inlet Temperature	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	-	Operating Non-operating	altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C
	-		 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C
	Temperature	Non-operating	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed.
	Temperature	Non-operating Operating	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500
	Temperature	Non-operating Operating Non-operating	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Temperature Altitude	Non-operating Operating Non-operating Idle	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 4.74 BELS
	Temperature Altitude	Non-operating Operating Non-operating Idle L WAd L pAm	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Temperature Altitude	Non-operating Operating Non-operating Idle L WAd L pAm Operating	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 4.74 BELS 30.0 dBA
	Temperature Altitude	Non-operating Operating Non-operating Idle L WAd L pAm	 altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F). 10 to 90% relative humidity (Rh), 28°C 5 to 95% relative humidity (Rh), 38.7°C 3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). 4.74 BELS



Technical Specifica	ations				
	Emissions	FCC Rating	Class B		
	Classification (EMC)	Normative Standards	Pt 15; ICES-003; CN	-3-2; EN 61000-3-3; EN	
			aluation, or assessm	specifications is based on ent. This product or family compliance logos and	
HP 160GB 3.0G SATA	160GB 7,200 rpm	Capacity	160,041 MB		
7.2K NHP 3.5" HDD 458947-B21		Height Maximum drive dimension	1.0 in. (26.1 mm)		
		Width	4.0 in. (101.6 mm)		
		Depth Maximum drive dimension	5.787 in (147.0 mm))	
		Interface	Serial ATA		
		Transfer rate synchronous (maximum)	3Gb/s		
		Native Command Queuing	N/A		
		Seek time (typical reads	ls,Single track 2.0 ms		
		including settling)	Average	<11 ms	
			Full-stroke	23.0 ms	
			Rotational speed	7,200 rpm	
		Physical Configuration	•	512	
			Logical Blocks	312,581,808	
		Operating Temperatur	e 41° to 131° F (5° to	55° C)	
16X Max SATA DVD-ROM Drive 447326-B21	Disk	Applicable Disk CD-ROM, CD-XA, CD- (Mode 1, Mode 2, Forr Photo CD (Single and		orm 1 and 2)	
			CD-R. CD-RW		
			•	and Data combined)	
			DVD-ROM DVD-R/RW, DVD+F CD-R	R/RW	
		Capacity	540MB (Mode 1, 12	cm)	
		Capacity	650MB (Mode 2, 12	,	
			4.7 GB, 8.5 GB DVI	,	
	Block Size	Mode 1	2,048 bytes (CD & I 1024 bytes	DVD)	
		Mode 2	2,340 bytes, 2,336 l	bytes, 1024 bytes	
		CD-DA	2,352 bytes		
		CD-XA	2,328 bytes		
	Interface	SATA			



Technical Specifications

	Access Times (typical)	Random	<100 ms	
	Data Tuanafan Data	Full-Stroke	<150 ms	
	Data Transfer Rate	Sustained	3000 to 7200 KB/s (20X to 48X)	
		Burst	150 KBps to 7,200 KBps	
	Cacha Duffar	Bus Rate	1.5Gbps	
	Cache Buffer	128 KB		
	Start-up Time (typical)	< 7 seconds		
	Stop Time Laser Parameters	< 4 seconds	Semiconductor Laser GaA1As	
	Laser Parameters	Type		
	Onereting Conditions	Wave Length	780 ± 25 nm	
	Operating Conditions	Temperature	41° to 122° F (5° to 50° C)	
	.	Humidity	10% to 90%	
	Dimensions	(HxWxD, maximum)	1.63 x 5.75 x 7.87 in (41.3 x 146 x 195 mm)	
		Weight	2.64 lb (1.2 kg)	
4 port Embedded SATA SATA Protocol		SATA 2, 3Gb/s		
controller	SATA Ports	4 internal		
	Port transfer rate	1.5 Gb/s total		
	Maximum Capacity	up to 3.0TB (4 x 750GB non-hot plug SATA HDD)		
	RAID Levels Supported	ed RAID 1+0 (Striping & Mirroring)		
		RAID 1 (Mirroring) RAID 0 (Striping) RAID 5 (Striping with parity)		
		RAID 5 (Striping with parity)		
	Supported	NOTE: On SATA models with embedded RAID, setup instructions are located in User Guide, CTO RAID is set-up is not available. HP ProLiant 100 Series Server User Guide: http://h20000.www2.hp.com/bc/docs/support/		
	Cupportou			
		SupportManual/c0026053	39/c00260539.pdf	
Embedded NC105i PCIeNetwork Interface		10Base-T/100Base-TX/10	000Base-TX	
Gigabit Server Adapter Compatibility		IEEE 802.3 10Base-T		
		IEEE 802.3ab 1000Base-T		
		IEEE 802.3u 100Base-TX		
Data Transfer Method		Single lane (x1), 100MHz PCI Express Reference Clock		
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s	
		10Base-T (Full-Duplex)	20 Mb/s	
		100Base-TX (Half-	100 Mb/s	
		Duplex)		
		100Base-TX (Full- Duplex)	200 Mb/s	
		1000Base-TX (Half and Full-Duplex)	2000Mb/s	
	Connector	RJ-45 connector		
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
		10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)	

Environment-friendly End-of-life Products and Approach Management and

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information,



Technical Specifications

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

