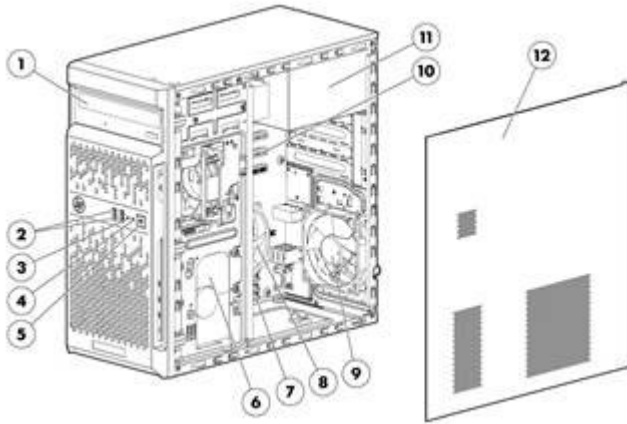


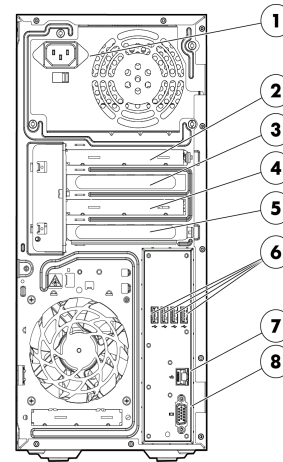
Overview

The HP ProLiant ML10 Server is a single-socket 4U tower server, delivering excellent value in a large form factor that small businesses require to run a small network environment. It is outstanding for businesses looking for improved performance, number of available slots, and flexible storage options while staying within a tight budget.



Front View:

1. Drive Bay
2. USB Connectors
3. NIC Status LED
4. Drive Status LED
5. System Power Button/LED
6. LFF Drive
7. DIMM
8. CPU Fan
9. System Fan
10. PCIe2x16 (8,4,1) Slot
11. Power Supply
12. Access Panel



Rear View:

1. Power Supply Connector
2. Slot 1 PCIe
3. Slot 2 PCIe
4. Slot 3 PCIe
5. Slot 4 PCIe
6. USB Connector
7. NIC Connector
8. Video Connector

What's New

- Worldwide availability
- New affordable, full-size entry tower
- Robust performance with Intel® Pentium® G2130 Processor
- Low acquisition cost with excellent flexibility and expandability

Standard Features

Processor	Dual-Core Processor Intel® Pentium® G2130 (3.20GHz/2-core/3MB/55W, 1600) Processor
Cache Memory	Integrated 1x3MB Level3 Intel® Smart Cache
Chipset	Intel® C204 Series Chipset NOTE: For more information regarding Intel® chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/ .
Upgradeability	Up to 4 DIMM slots available for higher memory capacity Up to 2 LFF Hard Drives 4 PCIe 2.0 I/O slots for additional communications and storage expansion Optical Drive Bay
On System Management Chipset	HP iLO (Firmware: HP iLO3) NOTE: For more information, visit: http://www.hp.com/go/ilo
Memory Protection	ECC
Memory	Type PC3-12800E-11 unbuffered DDR3 ECC up to 1600MT/s DIMM Slots Total 4 DIMM slots Standard 2GB GB (1x2GB) Maximum 32GB
Network Controller	HP NC112i 1-Port Ethernet Server Adapter (X1)

Standard Features

Expansion Slots	Expansion Slot #	Technology	Bus Width***	Connector Width	Form Factor
	1	PCIe G2	x16	x16	Full height & Half-length slot
	2	PCIe G2	X4	X8	Full height & Half-length slot
	3	PCIe G2	X4	X8	Full height & Half-length slot
	4	PCIe G2	X1	X4	Full height & Half-length slot

** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

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

HP Server ROM

HP ROM (Read Only Memory) is now digitally signed using HP's Corporate Signing Service. This signature is verified before the flash process starts, reducing accidental programming and preventing malicious efforts to corrupt system ROM.

HP ROM provides for essential initialization and validation of hardware components before control is passed to the customer-installed operating system. The ROM also provides the capability of booting from various fixed media (HDD, CD-ROM) and removable media (USB), to continue operation to the operating system.

HP ROM performs very early configuration of the video controller, to allow monitoring of initialization progress via an attached monitor. If configuration or hardware errors are discovered during this early phase of hardware initialization, suitable messages are now displayed on the connected monitor. Additionally, these configuration or hardware errors are logged to the Integrated Management Log (IML) to assist in diagnosis.

HP's ProLiant ROM is used to configure the following:

- Processor and chipset status registers
- System memory, memory map, and memory initialization
- System hardware configuration (Integrated PCI devices and optional PCIe cards).
- Customer-specific BIOS configuration (using the HP ROM-Based Setup Utility (RBSU)).

NOTE: For further information, please refer to HP's RBSU (ROM based setup utility) user guide: www.hp.com/support/rbsu.

Storage Controller

HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10)

NOTE: Supports up to two (2) 3.0Gb/s SATA hard disk drives only

NOTE: For set up instructions, please refer to the HP ProLiant ML100 series server user guide at: <http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01708878/c01708878.pdf>

NOTE: For general information about HP Smart Array B110i SATA RAID Controller, please go to: <http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb110i/index.html>

Standard Features

Internal Storage Devices	Optical Drive	HP Half-Height SATA DVD (Optional)
	Standard Hard Drive	(1) Non hot-plug LFF SATA
	Optional Hard Drive	(1) Non hot-plug LFF SATA in Optical Bay

NOTE: Requires purchase of optional 2nd HDD Cage (TBD)

Maximum Internal Storage	Non-Hot Plug LFF SATA	4TB	2 x 2TB
---------------------------------	-----------------------	-----	---------

NOTE: Requires purchase of optional 2nd HDD Cage (TBD)

Interfaces	Video Port	1
	USB 2.0 Ports	7 total (4 rear, 2 front panel, 1 internal)
	Network RJ-45 (Ethernet)	1 dedicated for HP Integrated Lights-Out
	iLO Remote	1 Gb Dedicated

Industry Standard Compliance	ACPI V3.0b Compliant
	PCI Express Rev 2.0
	PXE Support
	WOL Support
	IPMI 2.0 compliance
	DCMI 1.0
	Microsoft® Logo certifications
	Red Hat Enterprise Linux Logo certifications
SUSE Linux Enterprise Server Logo certifications	
USB 2.0	

Server Power Cords	The ML10 server ships standard with a 6 country specific NEMA power cord. If customers require a local power cord, they can check the power cord matrix for the appropriate country specific sku. Please see the following power cord matrix: http://www.hp.com/go/powercordmatrix .
---------------------------	---

Power Supply	300 Watts 80+ Bronze Non-Hot Plug, Non redundant Power Supply
---------------------	---

System Fans	One Non-redundant system fan ships standard
	One Non-redundant CPU heatsink fan ships standard

Operating Systems and Virtualization Software Support for ProLiant Servers	Microsoft Windows Server
	SUSE Linux Enterprise Server (SLES)
	NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport and our driver download page: HP ProLiant ML10

Standard Features

Form Factor Micro ATX Tower (4U).

HP Insight Management HP Integrated Lights-Out 3 (3) HP Integrated Lights-Out 3 (iLO) simplifies server setup, health monitoring, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP iLO functions without additional software and can be accessed from any location via a web browser. HP iLO works hand-in-hand with HP Systems Insight Manager, Insight Control suites, and Insight Dynamics for ProLiant, helping customers unleash the value of the ProLiant platform and deliver the highest possible quality of IT service. For more information, visit: www.hp.com/go/iLO

Security Power-on password
Setup password
Secure Sockets Layer (SSL)
Secure Shell (SSH)
iLO 3 (Integrated Lights-Out 3) has 12 customizable user accounts and SSL encryption
iLO 3 can be disabled via a Global Setting
iLO Advanced supports directory services integration

Warranty 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 are 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. Hard drives have one year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 1 year parts, 1 year labor, 1-year on-site support with next business day response. 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>

Optional Features

HP Insight management software HP Insight Control

HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. For more information, visit: www.hp.com/go/insightcontrol.

HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: <http://www.hp.com/services/insight>.

NOTE: HP Insight Control 7.2 introduces Insight Control server provisioning, a new capability ideal for multi-server OS and firmware provisioning to ProLiant and BladeSystem servers. Insight Control server provisioning is included and licensed as part of HP Insight Control. A media kit, "HP Insight Control server provisioning USB media kit" (# BD883A), including a USB, is available for customers who require a physical copy of the media loaded with Insight Control server provisioning software. Please note that this media kit is separate and in addition to the "HP Insight Management DVD media kit" (#C6N31A).

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers and BladeSystem

Capitalizing on HP ProLiant server and HP BladeSystem capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know HP infrastructure hardware and software best - the experienced professionals at HP Services.

Protect your business beyond warranty with HP Care Pack Services

HP Care Pack services offer complete care and support expertise with committed response choices designed to meet your IT and business needs.

HP Foundation Care services offer scalable reactive support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your IT and business needs. HP Proactive Care delivers high levels of system availability through proactive service management and advanced technical response.

Optimized Care

Supports maintaining servers at optimum performance availability

3-Year HP 24x7 4 hour response, Proactive Care Service*

This service gives you combined reactive and proactive support including rapid access to our Advanced Solution Center to manage and prevent problems and a Technical Support Specialist with a broad level of technical knowledge that will engage with additional technical expertise as needed from HP's vast global resources.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Standard Care Package

Supports maintaining high level of server availability

3-Year HP Next Business Day, Proactive Care Service*

This service gives you combined reactive and proactive support including rapid access to our Advanced Solution Center to manage and prevent problems and a Technical Support Specialist with a broad level of technical knowledge that will engage with additional technical expertise as needed from HP's vast global resources.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Basic Care Package

Delivers minimum recommended support service level

3-Year HP Next Business Day with Collaborative Support

This service gives you hardware break/fix plus software diagnosis support with collaborative call

Service and Support

management for a broad spectrum of 3rd Party software products including O/S and hypervisors.
<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8232ENW.pdf>

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.
<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Related Services

HP Proactive Care Personalized Support - Environmental Option

The Personalized Support option provides an assigned Account Support Manager who can bring best practices from across the industry plus extra technical skills to your IT team. This option is only available as an add-on to HP Proactive Care Support.

HP Proactive Select Service

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

Additional HP Care Pack services can be found at:
<http://www.hp.com/go/cpc>

Insight Online/Insight Remote Support

HP Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HP solution*. Learn more about Insight Remote Support <http://www.hp.com/go/insightremotesupport> and Insight Online <http://www.hp.com/go/insightonline>

* Insight Remote Support is a prerequisite for Proactive Care.

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App** allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

** HP Support Center Mobile App is subject to local availability

Service and Support

Parts and Materials

HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction.

For more information

To learn more on HP ProLiant servers, please contact your HP sales representative or HP Authorized Channel Partner or visit: <http://www.hp.com/services/proliant>

Pre-configured Models

SATA Model

NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.

NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.

NOTE: For general information about HP Smart Array B110i SATA RAID Controller, please visit:

<http://h18004.www1.hp.com/products/servers/proliantstorage/arraycontrollers/smartarrayb110i/index.html>

Entry Model

HP ProLiant ML10 G2130 1P 2GB-U B110i 300W PS Entry Server 730651-xx1	Processor	(1) Intel® Pentium® Processor G2130 (3.20GHz/2-core/3MB/55W, 1600) Processor
	Cache Memory	3MB Intel® Smart Cache
	Memory	2GB (1x2GB) PC3-12800E (DDR3-1600) Unbuffered DIMM 32GB Maximum memory capacity NOTE: Total 4 DIMM slots.
	Network Controller	HP NC112i 1-Port Ethernet Server Adapter (x1)
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller
	Hard Drive	None ships standard
	Optical Drive	HP Half-Height SATA DVD ROM JackBlack Optical Drive (Optional) HP Half-Height SATA DVD RW JackBlack Optical Drive (Optional)
	Power Supply	300 Watts 80+ Bronze Non-Hot Plug, Non redundant Power Supply
	Fans	One (1) - Non-redundant system fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard
	Accessories	Keyboard/mouse optional
	Management	HP Integrated Lights-Out Standard (iLO 3)
	Form Factor	Micro ATX Tower (4U)
	Warranty	Server Warranty includes 1 year parts, 1 year labor, 1-year on-site support with next business day response.

Country Code Key	xx= 00	US
	xx=42	Europe

Core Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Unique Options	HP ML10 Hard Drive Enablement Kit NOTE: The ML10 HDD enablement Kit converts Optical Drive bay to one LFF Drive Carrier	730641-B21
--------------------------	---	------------

HP Memory	Unbuffered with ECC DIMMs (UDIMMs)	
	HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21
	NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator .	
	NOTE: Depending on the memory configuration and processor model, 1600MHz memory may operate at a lower speed. Please see the "Memory" section later in this document and the Online Memory Configuration Tool for details at www.hp.com/go/ddr3memory-configurator .	
	NOTE: For additional memory rules and guidelines, see the "Memory" section later in this document.	
	NOTE: For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient	

HP Optical Drives	HP Half-Height SATA DVD ROM JackBlack Optical Drive	624189-B21
	HP Half-Height SATA DVD RW JackBlack Optical Drive	624192-B21

HP Hard Drives	NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, and firmware) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.	
	NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.	
	SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
	HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	507774-B21
	HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	507772-B21
	HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1yr Warranty Hard Drive	458941-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html	

Core Options

HP Networking

Gigabit Ethernet Adapters

HP NC112T PCI Express Gigabit Server Adapter 503746-B21

HP NC365T 4-port Ethernet Server Adapter 593722-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs

HP Power Supplies

300W, ATX, E-star*6 PSU, Bronze 699549-001

Additional Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Insight Software

HP Insight Control

HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License

C6N28AAE

HP Insight Control Server Provisioning Media Kit

BD883A

HP Insight Management Media Kit

C6N31A

NOTE: Insight Software DVD media without licenses. Contains HP Systems Insight Manager, HP Insight Control, HP Insight Dynamics, HP Insight Control for Microsoft System Center, and Virtual Connect Enterprise Manager software. Uses an integrated installer to perform quick and accurate software installation and updates.

NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.

NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.

NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: <http://www.hp.com/go/insightupdates>

NOTE: For additional license options please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html.

HP Insight Control server deployment

HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License

T9082AAE

NOTE: Licenses ship without media. The HP Insight Management Media Kit can be ordered separately, or can be downloaded at: <http://www.hp.com/go/insightupdates>.

NOTE: Customer will receive a license entitlement certificate, which must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service.

NOTE: For additional license kits please see the Insight Control QuickSpecs at:

http://h18004.www1.hp.com/products/quickspecs/12631_div/12631_div.html.

HP Uninterruptible Power Systems

HP Tower - UPS

HP T750 G2 UPS Models

HP T750 G2 750VA INTL Tower Uninterruptible Power System

AF447A

NOTE: For additional information please go to: <http://www.hp.com/go/rackandpower> (Worldwide)

NOTE: Please see QuickSpecs for Technical Specifications and additional information:

http://h18004.www1.hp.com/products/quickspecs/13160_div/13160_div.html

Additional Options

HP Rack Options

HP USB Keyboard and Mouse

HP USB BFR with PVC Free US Keyboard/Mouse Kit	631341-B21
HP USB BFR with PVC Free UK Keyboard/Mouse Kit	631344-B21
HP USB BFR with PVC Free FR Keyboard/Mouse Kit	631346-B21
HP USB BFR with PVC Free ES Keyboard/Mouse Kit	631348-B21
HP USB BFR with PVC Free DE Keyboard/Mouse Kit	631358-B21
HP USB BFR with PVC Free JP Keyboard/Mouse Kit	631360-B21
HP USB BFR with PVC Free IT Keyboard/Mouse Kit	631362-B21
HP USB BFR with PVC Free CN Keyboard/Mouse Kit	631364-B21
HP USB BFR with PVC Free AE Keyboard/Mouse Kit	638212-B21
HP USB BFR with PVC Free RU Keyboard/Mouse Kit	638214-B21
HP USB BFR with PVC Free SE Keyboard/Mouse Kit	672097-103
HP USB BFR with PVC Free CH Keyboard/Mouse Kit	672097-113
HP USB BFR with PVC Free PT Keyboard/Mouse Kit	672097-133
HP USB BFR with PVC Free TR Keyboard/Mouse Kit	672097-143
HP USB BFR with PVC Free CZ Keyboard/Mouse Kit	672097-223
HP USB BFR with PVC Free FI Keyboard/Mouse Kit	672097-353
HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit	672097-373
HP USB BFR with PVC Free Intl Keyboard/Mouse Kit	672097-B33
HP USB BFR with PVC Free IN Keyboard/Mouse Kit	672097-D63
HP USB BFR with PVC Free KR Keyboard/Mouse Kit	672097-KD3

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:

http://h18000.www1.hp.com/products/quickspecs/13972_div/13972_div.html
(Worldwide)

Memory

HP ProLiant ML10 Models

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

Standard Memory

2GB PC3-12800E-11 unbuffered DDR3 ECC up to 1600MT/s

Maximum Memory with Optional Memory

Up to 32GB of memory is available with the installation of optional memory, 4x 8 GB PC3-12800E un-buffered ECC DDR3 SDRAM DIMM Memory kits.

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

NOTE: For best performance, it is recommended that customer installs memory in identical pairs (Slots 2A and 4B are interleaving pair. Slots 1C and 3D are interleaving pair).

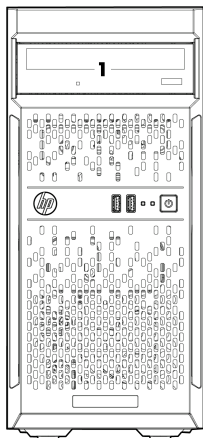
Memory		Slot			
		DIMM1C	DIMM2A	DIMM3D	DIMM4B
Standard (Entry Model)	2 GB	Empty	2 GB	Empty	Empty
Maximum	32 GB	8 GB	8 GB	8 GB	8 GB

Following are memory options available from HP:

HP Memory	HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669320-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669322-B21
	HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit	669324-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.

Storage



- 1 Optical Media Drive
Optional: DVD Drive or DVD-RW Drive

Drive Support

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

Maximum Storage Capacity - SATA Models		
Internal	SATA	4TB (2 x 2TB)

Technical Specifications

System Unit	Dimensions (H x W x D) (with feet)	14.3 x 6.5 x 15 in (36.39 x 16.5 x 38.1 cm)	
	Weight (approximate)	Non Hot Plug LFF Full Loading Single Package weight	9.74 kg (21.45 lb)
		Non Hot Plug LFF Full Loading without Package	7.80kg (17.18 lb)
		Non Hot Plug LFF light Loading without Package	5.94kg (13.08 lb)
	300W Input Requirements (per power supply)	Rated Line Voltage	90 to 140 VAC, 180 to 264 VAC
		Rated Input Current	8A (at 100 VAC) 4A (at 200 VAC)
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	410W (at 115 VAC), 410W (at 200 VAC)
	Power Specifications	To review typical system power ratings use the Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/hppoweradvisor	
	Power Supply Output (per power supply)	Rated Steady-State Power	300 W (at 100 VAC), 300 W (at 200 VAC)
		Maximum Peak Power	320 W (at 100 VAC), 320 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 may shut down if operating with a fan fault or above 42°C (107.6°F).
		Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/r (36°F/hr)
	Relative Humidity (non-condensing)	Operating	10% to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
		Non-operating	5% to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
		Non-operating	Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
	Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when	

Technical Specifications

the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Level C (idle 5.6 bel/OP 6.0 bel)

NOTE: The listed sound levels above apply to standard SATA configurations. Additional options may result in increased sound levels.

Emissions Classification (EMC)	FCC Rating	Class B
	Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1

NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Integrated Lights-Out Standard (iLO 3) integrated on system board

Architecture	PCI Express based health and remote management ASIC
Processor	PCI Express RISC processor core running at 250MHz
Upgradeability	Option firmware upgradeable via Flash ROM.
Video Support	1600 x 1200 DVR max resolution
Interfaces	One Ethernet Sideband connection (10/100/1000 Mb/s)
Memory	128-MB SDRAM with ECC
Operating System Support	Microsoft Windows 2008 R2 Microsoft Windows 2008 (32 bit and 64 bit) Microsoft Windows Server 2008 Standard Edition (32bit and 64bit) Microsoft Windows Server 2008 Enterprise Edition (32bit and 64bit) SUSE LINUX Enterprise Server 11 (32bit and 64bit) SUSE LINUX Enterprise Server 10 (32bit and 64bit)
Client System Support	Microsoft Windows 7 Microsoft Windows XP Professional Edition Microsoft Windows Vista Business and Ultimate Editions SUSE Linux Enterprise Desktop 11 SUSE Linux Enterprise Desktop 10
Client Browser Support	Microsoft Internet Explorer 8 Microsoft Internet Explorer 7 Microsoft Internet Explorer 6 Firefox 3.5 (on supported Windows and Linux systems) Firefox 3.0 (on supported Windows and Linux systems)
Command Line Support Security	Secure Shell and serial port access Secure Socket Layer Secure Shell version 2 (Password and certificate) Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser, CLP and XML scripting interface AES encryption of video RC4 encryption of video

Technical Specifications

Directory Support Services	Active Directory v1.0 (Windows 2008)
Driver Support	HP ProLiant iLO 3 Management Controller Driver Package iLO Management Channel Interface Driver
Management protocols supported	SNMP, IPMI 2.0 (System and LAN interface), DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP), HP RIBCL XML

Environment-friendly Products and Approach

End-of-life Management and Recycling

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

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

© Copyright 2013 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation.

AMD, the AMD Arrow logo, AMD Opteron™, and combinations thereof, are trademarks of Advanced Micro Devices, Inc.

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

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