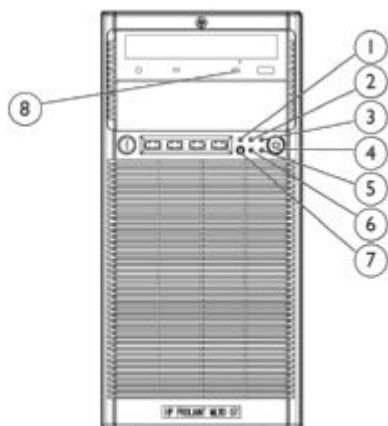


QuickSpecs

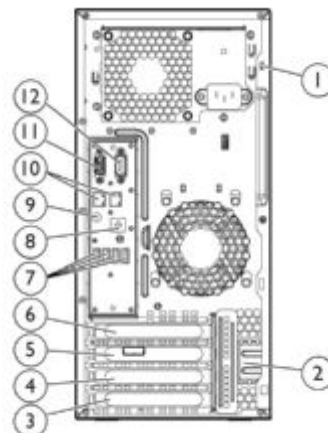
HP ProLiant ML110 Generation 7

Overview



Front View

1. System Health LED
2. NIC ink / activity LEDs
3. Optional media drive activity LED
4. Power On / Standby button and system power LED
5. Power Status LED
6. NIC ink / activity LEDs
7. UID LED and button
8. Media Drive Activity LED



Rear View

1. Kensington lock notch
2. PCIe slot cover retainer latch
3. Slot 1 PCIe2x16
4. Slot 2 PCIe2x8
5. Slot 3 PCIe2x8
6. Slot 4 PCIe2x4
7. USB connectors (4)
8. iLO3 dedicated LAN port (optional)
9. UUID button
10. RJ-45 Ethernet connectors (2)
11. Video connector
12. Serial connector

What's New

- Support for Intel® Celeron® Dual-Core Processors

QuickSpecs

HP ProLiant ML110 Generation 7

Standard Features

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

Processor

One of the following depending on Model

Quad-Core Processors

Intel® Xeon® E3-1280 (3.50GHz/4-core/8MB/95W, 1333, HT, Turbo 1/2/3/4) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Xeon® E3-1270 (3.40GHz/4-core/8MB/80W, 1333, HT, Turbo 1/2/3/4) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Xeon® E3-1240 (3.30GHz/4-core/8MB/80W, 1333, HT, Turbo 1/2/3/4) Processor

Intel® Xeon® E3-1230 (3.20GHz/4-core/8MB/80W, 1333, HT, Turbo 1/2/3/4) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Xeon® E3-1220 (3.10GHz/4-core/8MB/80W, 1333, HT, Turbo 1/2/3/4) Processor

Dual-Core Processors

Intel® Core™ i3-2130 (3.40GHz/2-core/3MB/65W, 1333, HT) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Core™ i3-2120 (3.30GHz/2-core/3MB/65W, 1333, HT) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Core™ i3-2100 (3.10GHz/2-core/3MB/65W, 1333, HT) Processor

Intel® Pentium® G860 (3.0GHz/2-core/3MB/65W, 1333) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Pentium® G850 (2.90GHz/2-core/3MB/65W, 1333) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Pentium® G840 (2.80GHz/2-core/3MB/65W, 1333) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Pentium® G630 (2.70GHz/2-core/3MB/65W, 1333) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Pentium® G620 (2.60GHz/2-core/3MB/65W, 1333) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

Intel® Pentium® G530 (2.40GHz/2-core/3MB/65W, 1333) Processor

NOTE: Available through Configure To Order only. See Factory Integration Models section for more details.

NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.

NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.

NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

Cache Memory

One of the following depending on Model

Integrated 1x8MB Level3 Intel® Smart Cache

Integrated 1x3MB Level3 Intel® Smart Cache



QuickSpecs

HP ProLiant ML110 Generation 7

Standard Features

Chipset Intel® C200 chipset
NOTE: For more information regarding Intel chipsets, please see the following URL:
<http://www.intel.com/products/server/chipsets/>

Memory Protection ECC

Memory

| | |
|------------|--|
| Type | PC3-10600E unbuffered DDR3 ECC up to 1333MHz |
| DIMM Slots | Total 4 DIMM slots |
| Standard | 2GB (1x2GB) or 4GB (2x2GB) |
| Maximum | 16GB |

Network Controller HP NC112i 1-Port Ethernet Server Adapter (x2)

| Expansion Slots # | Technology | Bus Width*** | Connector Width | Bus Number* | Device Number** | Form Factor | Notes |
|-------------------|------------|--------------|-----------------|-------------|-----------------|--------------------------------|------------|
| 1 | PCIe G2 | X16 | X16 | | | Full height, Full length slot | Gen.2, NHP |
| 2 | PCIe G2 | X4 | X8 | | | Full height & Full-length slot | Gen.2, NHP |
| 3 | PCIe G2 | X4 | X8 | | | Full height & Full-length slot | Gen.2, NHP |
| 4 | PCIe G2 | X1 | X1 | | | Full height & Half-length slot | Gen.2, NHP |

** 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.

Storage Controller HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10)
NOTE: Supports up to four (4) 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>

Internal Storage Devices

| | |
|---|---|
| Optical Drive | DVD ROM DVD-RW |
| Hard Drives One of the following depending on Model | 1x250 GB NHP SATA 7200 rpm Drive (Entry Model) 1x250 GB NHP SATA 7200 rpm Drive (Base Model) Up to 4 HP SATA/SAS 3.5" drives supported. None ships standard (Performance Model) |



QuickSpecs

HP ProLiant ML110 Generation 7

Standard Features

| | | |
|--|--------------------------|---------------------------|
| Maximum Internal Storage One of the following depending on Model | Non-Hot Plug SAS | 8.0TB (4 x 2TB) 3.5" SAS |
| | Non-Hot Plug SATA | 8.0TB (4 x 2TB) 3.5" SATA |
| | Hot Plug SAS | 4.0TB (4x1TB) 2.5" SAS |

| | | |
|-------------------|------------------------------|--|
| Interfaces | Parallel | 0 |
| | Serial | 1 |
| | Pointing Device (Mouse, USB) | 1 |
| | Graphics | 1 |
| | Keyboard (USB) | 1 |
| | USB 2.0 Ports | 10 total (4 rear, 4 front panel, 2 internal (one for USB Tape connectivity)) |

NOTE: 1 Dedicated USB port available for internal 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) | 2(10/100/1000 bits/s) |
|--------------------------|-----------------------|

| | |
|-------------------|--------------------------------|
| Remote Management | iLO3 remote management support |
|-------------------|--------------------------------|

NOTE: If users do not purchase iLO dedicated NIC option card they can still use this port as shared NIC Port.

| | |
|-------------------------------------|--|
| 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 | 6' country specific, lowline NEMA power cord. |
|---------------------------|---|

| | |
|--|--|
| Power Supply One of the following depending on Model | 350 Watts Non-Hot Plug, Non redundant Power Supply |
| | 460 Watts Common Slot Gold Hot Plug Power Supply |

| | |
|--------------------|---|
| System Fans | One (1) - Non-redundant system fan ships standard |
| | One (1) - Non-redundant PCIe fan ships standard |
| | One (1) - Non-redundant CPU heatsink fan ships standard |

QuickSpecs

HP ProLiant ML110 Generation 7

Standard Features

| | |
|---|---|
| Operating Systems and Virtualization Software Support for ProLiant Servers | <p>Microsoft Windows Server</p> <p>Red Hat Enterprise Linux (RHEL)</p> <p>SUSE Linux Enterprise Server (SLES)</p> <p>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/supportos and our driver download page http://www.hp.com/support/ML110G7</p> |
|---|---|

| | | | | | | | | | | | |
|------------------|---|------------------|--------------------------|--------|----------------------------------|--|---------------------------------|--|--------------------------------|--|--------------------------------|
| Graphics | <p>GLP embedded Matrox G200</p> <table> <tr> <td>Resolution Color</td> <td>600 x 1200, 64K, 256, 16</td> </tr> <tr> <td>Depths</td> <td>1280 x 1024, 16.7M, 64k, 256, 16</td> </tr> <tr> <td></td> <td>1024 x 768, 16.7M, 64k, 256, 16</td> </tr> <tr> <td></td> <td>800 x 600, 16.7M, 64k, 256, 16</td> </tr> <tr> <td></td> <td>640 x 480, 16.7M, 64k, 256, 16</td> </tr> </table> <p>NOTE: Maximum resolution available via HP Integrated Lights-Out 3 (iLO 3) remote console is 1280 x 1024.</p> | Resolution Color | 600 x 1200, 64K, 256, 16 | Depths | 1280 x 1024, 16.7M, 64k, 256, 16 | | 1024 x 768, 16.7M, 64k, 256, 16 | | 800 x 600, 16.7M, 64k, 256, 16 | | 640 x 480, 16.7M, 64k, 256, 16 |
| Resolution Color | 600 x 1200, 64K, 256, 16 | | | | | | | | | | |
| Depths | 1280 x 1024, 16.7M, 64k, 256, 16 | | | | | | | | | | |
| | 1024 x 768, 16.7M, 64k, 256, 16 | | | | | | | | | | |
| | 800 x 600, 16.7M, 64k, 256, 16 | | | | | | | | | | |
| | 640 x 480, 16.7M, 64k, 256, 16 | | | | | | | | | | |

| | |
|--------------------|---|
| Form Factor | <p>Micro ATX Tower (4U)</p> <p>NOTE: Rack mounting available via HP Tower to Rack Conversion Tray, Universal Kit. Please see the options section in this QuickSpecs.</p> |
|--------------------|---|

| | |
|--|---|
| HP Insight management software suite for ProLiant | <p>HP Insight Foundation Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters.</p> |
|--|---|

HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecycle. This provides the customer with higher levels of operational efficiency and highly reliable systems:
www.hp.com/go/foundation

The HP Insight Foundation suite for ProLiant keeps systems up-to-date, and its products are available as free downloads as well as for purchase. These tools and utilities provide management solutions that are designed to simplify a server's installation, configuration, and maintenance throughout the entire server life-cycle and provide customers with higher levels of operational efficiency and highly reliable solutions. It provides a complete server maintenance solution by combining

- Smart Update Firmware DVD
- Two SmartStart CDs (one supporting 32 bit operating systems and one supporting 64 bit operating systems)
- Management DVD that includes HP Systems Insight Manager (HP SIM).

SmartStart version supported (minimum): SmartStart 8.40. On web the downloads will be at Version 8.70. The media kit may still be shipping with earlier versions.

<http://www.hp.com/servers/smartstart>

NOTE: In an effort to support reducing our environmental impact, the HP Insight Foundation Suite for ProLiant media will be available as a selectable option for this server at time of order of a CTO SKU.



QuickSpecs

HP ProLiant ML110 Generation 7

Standard Features

This will allow customers to order the number of media kits that best meet their needs and eliminate receiving unnecessary duplicate media.

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 either a one year or three 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. (3-1-1 warranty offered in Brazil only). 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>

QuickSpecs

HP ProLiant ML110 Generation 7

Optional 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.
<http://www.hp.com/products/configurator>

SOLO NETWORK

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.

What HP ProLiant and BladeSystem Services can do for you

HP ProLiant and BladeSystem Services can help you design, deploy, test, integrate, support, and manage IT and infrastructure solutions. This way, HP proposes services solutions that include more than just uplift of base warranty. You can get the support you need by choosing from one of a number of service packaged solutions we have designed to address wider set of customer support needs.

HP Technology Services meets business challenges with services offered in three packages:

Optimized Care Package, Standard Care Package, and Basic Care Package

Available for each product group. Such packaged solutions enable customers to optimize technology operations, minimize risk and drive better business outcomes with easy-to-buy, easy-to-use scalable support packages for servers, storage, networking and software.

Optimized Care Package

Supports maintaining servers at optimum performance availability

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>

3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf>

Additional Services

Software OS (Microsoft, Linux (SUSE/Red Hat) Installation and Start Up and Software Support) plus Microsoft or Linux education courses +30 Proactive Select Credits, Factory Express.

Service and Support

Standard Care Package **Package that maintains high level of server availability**

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>

3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE>

Additional Services

Software OS (Microsoft, Linux (SUSE/Red Hat) Installation and Start Up and Software Support); +10 Proactive Select Credits, Factory Express.

Basic Care Package

Delivers minimum recommended support service level

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>

3-Year HP 13x5 4 hour Response, Hardware Support Onsite Service

Delivers increased equipment availability and productivity with rapid remote support and onsite response for your HP server and storage hardware.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE>

Additional Services

Software OS (Microsoft, Linux (SUSE/Red Hat) Installation and Start Up and Software Support), Factory Express.

Insight Remote Support

The packages include HP Insight Remote Support that uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnoses, and problem resolution. It is available at no additional cost to all warranty, HP Care Pack Service, and service agreement customers.

For more information

To learn more on HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner or visit:

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

QuickSpecs

HP ProLiant ML110 Generation 7

Pre-configured Models

SATA Models

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

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: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

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 | Processor | Intel® Core™ i3-2100 (3.10GHz/2-core/3MB/65W, 1333, HT) Processor |
| HP ProLiant ML110 G7 i3-2100 1P 2GB-U Non-hot Plug 250GB SATA 350W PS Server 626473-xx1 | Cache Memory | 3MB Intel® Smart Cache |
| | Memory | 2GB (1 x 2GB) PC3-10600E DDR3 UB ECC NOTE: Total 4 DIMM slots. |
| | Network Controller | HP NC112i 1-Port Ethernet Server Adapter (x2) |
| | Storage Controller | HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) (4 ports for HDD) |
| | Hard Drive | 1 x 250GB 3.5" Non-hot plug SATA |
| | Internal Storage | Up to 8.0TB (4 x 2.0TB) Non-hot plug LFF SATA (Maximum) |
| | Optical Drive | HP Half-Height 16x SATA DVD-ROM |
| | Power Supply | 350 Watts Non-Hot Plug, Non redundant Power Supply |
| | Fans | One (1) - Non-redundant system fan ships standard One (1) - Non-redundant PCIe fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard |
| | 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. (3-1-1 warranty offered in Brazil only). |

QuickSpecs

HP ProLiant ML110 Generation 7

Pre-configured Models

| | | |
|---|---------------------------|---|
| Base Model | Processor | Intel® Xeon® E3-1220 (3.10GHz/4-core/8MB/80W, 1333, Turbo 1/2/3/4) processor |
| HP ProLiant ML110 G7 E3-1220 1P 2GB-U Non-hot Plug 250GB SATA 350W PS Server 626474-xx1 | Cache Memory | 8MB Intel® Smart Cache |
| | Memory | 2GB (1x2GB) PC3-10600E DDR3 UB ECC NOTE: Total 4 DIMM slots. |
| | Network Controller | HP NC112i 1-Port Ethernet Server Adapter (x2) |
| | Storage Controller | HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) (4 ports for HDD) |
| | Hard Drive | 1 x 250GB Non-hot-plug LFF SATA |
| | Internal Storage | Up to 8.0TB (4 x 2.0TB) Non-hot plug LFF SATA (Maximum) |
| | Optical Drive | HP Half-Height 16x SATA DVD-ROM |
| | Power Supply | 350 Watts Non-Hot Plug, Non redundant Power Supply |
| | Fans | One (1) - Non-redundant system fan ships standard One (1) - Non-redundant PCIe fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard |
| | 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. (3-1-1 warranty offered in Brazil only). |

| | | |
|--|---------------------------|---|
| Performance model | Processor | Intel® Xeon® E3-1240 (3.30GHz/4-core/8MB/80W, 1333, HT, Turbo 1/2/3/4) processor |
| HP ProLiant ML110 G7 E3-1240 1P 4GB-U Hot Plug SATA 460W RPS Server 626475-xx1 | Cache Memory | 8MB Intel® Smart Cache |
| | Memory | 4GB (2x2GB) PC3-10600E DDR3 UB ECC NOTE: Total 4 DIMM slots. |
| | Network Controller | HP NC112i 1-Port Ethernet Server Adapter (x2) |
| | Storage Controller | HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10) (4 ports for HDD) |
| | Hard Drive | None ship standard |
| | Internal Storage | Up to 8.0TB (4 x 2.0TB) hot plug LFF SATA (Maximum) |
| | Optical Drive | HP Half-Height 16x SATA DVD-RM |
| | Power Supply | HP 460W Common Slot Gold Hot Plug Power Supply NOTE: HP RPS Enablement Kit included. To enable redundancy an additional 460W PS (P/N 503296-B21) needs to be purchased. |
| | Fans | One (1) - Non-redundant system fan ships standard One (1) - Non-redundant PCIe fan ships standard One (1) - Non-redundant CPU heatsink fan ships standard |
| | 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. (3-1-1 warranty offered in Brazil only). |

QuickSpecs

HP ProLiant ML110 Generation 7

Pre-configured Models

| | | |
|-------------------------|-------|---------------------------|
| Country Code Key | xx=00 | NA |
| | xx=01 | Australia |
| | xx=03 | UK |
| | xx=04 | Germany |
| | xx=05 | France |
| | xx=37 | AP |
| | xx=42 | Euro |
| | xx=AA | PRC (Excludes 626473-xx1) |

SOLO NETWORK

Configuration Information - Factory Integrated Models

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

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 configurable product offerings and requirements.

NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.

NOTE: FIO indicates that this option is only available as a factory installable option.

Step 1: Base Configuration

| | |
|------------------|--|
| HP Models | <p>HP ProLiant ML110 G7 Hot Plug 4 LFF Configure-to-order Server 647337-B2</p> <p>Factory Integrated Models ship with:</p> <p>Embedded NC112i Gigabit Ethernet Server Adapter (x2)</p> <p>HP Integrated Lights-Out Standard (iLO 3)</p> <p>HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10), 4 ports for HDD</p> <p>NOTE: For set up instructions for HP Smart Array B110i SATA Controller please refer to the HP ProLiant ML100 series server user guide at: http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01708878/c01708878.pdf</p> <p>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</p> <p>Non hot-plug SAS/SATA 4 port cable</p> <p>PCA</p> <p>Power cord</p> <p>Micro ATX Tower (4U)</p> |
| | <p>HP ProLiant ML110 G7 Hot Plug 8 SFF Configure-to-order Server 647338-B2</p> <p>Factory Integrated Models ship with:</p> <p>Embedded NC112i Gigabit Ethernet Server Adapter (x2)</p> <p>HP Integrated Lights-Out Standard (iLO 3)</p> <p>HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10), 4 ports for HDD</p> <p>NOTE: For set up instructions for HP Smart Array B110i SATA Controller please refer to the HP ProLiant ML100 series server user guide at: http://bizsupport1.austin.hp.com/bc/docs/support/SupportManual/c01708878/c01708878.pdf</p> <p>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</p> <p>Non hot-plug SAS/SATA 4 port cable</p> <p>PCA</p> <p>Power cord</p> <p>Micro ATX Tower (4U)</p> |
| | <p>HP ProLiant ML110 G7 Non-hot Plug 4 LFF Configure-to-order Server 647336-B2</p> <p>Factory Integrated Models ship with:</p> <p>Embedded NC 112i Gigabit Ethernet Server Adapter (x2)</p> <p>HP Integrated Lights-Out Standard (iLO 3)</p> |

Configuration Information - Factory Integrated Models

HP Embedded Smart Array B110i SATA RAID Controller (RAID 0/1/10), 4 ports for HDD

NOTE: For set up instructions for HP Smart Array B110i SATA Controller 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 visit:

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

Non hot-plug SAS/SATA 4 port cable

PCA

Power cord

Micro ATX Tower (4U)

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

HP Processors

Quad-Core Processor

HP ML110 G7 Intel® Xeon® E3-1280 (3.50GHz/4-core/8MB/95W) FIO Processor Kit 645836-L2

HP ML110 G7 Intel® Xeon® E3-1270 (3.40GHz/4-core/8MB/80W) FIO Processor Kit 639704-L2

HP ML110 G7 Intel® Xeon® E3-1240 (3.30GHz/4-core/8MB/80W) FIO Processor Kit 639703-L2

HP ML110 G7 Intel® Xeon® E3-1230 (3.20GHz/4-core/8MB/80W) FIO Processor Kit 639702-L2

HP ML110 G7 Intel® Xeon® E3-1220 (3.10GHz/4-core/8MB/80W) FIO Processor Kit 639701-L2

Dual-Core Processor

HP ML110 G7 Intel® Xeon® i3-2130 (3.40GHz/2-core/3MB/65W) FIO Processor Kit 663405-L2

HP ML110 G7 Intel® Xeon® i3-2120 (3.30GHz/2-core/3MB/65W) FIO Processor Kit 643290-L2

HP ML110 G7 Intel® Xeon® i3-2100 (3.10GHz/2-core/3MB/65W) FIO Processor Kit 643288-L2

HP ML110 G7 Intel® Pentium® G860 (3.0GHz/2-core/3MB/65W) FIO Processor Kit 663404-L2

HP ML110 G7 Intel® Pentium® G850 (2.90GHz/2-core/3MB/65W) FIO Processor Kit 656604-L2

HP ML110 G7 Intel® Pentium® G840 (2.80GHz/2-core/3MB/65W) FIO Processor Kit 656603-L2

HP ML110 G7 Intel® Pentium® G630 (2.70GHz/2-core/3MB/65W) FIO Processor Kit 663403-L2

HP ML110 G7 Intel® Pentium® G620 (2.60GHz/2-core/3MB/65W) FIO Processor Kit 656602-L2

HP ML110 G7 Intel® Pentium® G530 (2.40GHz/2-core/3MB/65W) FIO Processor Kit 663402-L2

HP Memory

HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 500672-B2

HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit 500670-B2



Configuration Information - Factory Integrated Models

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 at: www.hp.com/go/ddr3memory-configurator.

| | | |
|--------------------------|--|-----------|
| HP Power Supplies | HP 350W Factory Integrated Power Supply Kit | 646146-B2 |
| | HP 460W Common Slot Gold Hot Plug Power Supply Kit | 503296-B2 |
| | NOTE: To upgrade to the HP 460W Common Slot Gold Hot Plug Power Supply and to add support for redundant power supplies, customers need to purchase one HP RPS G7 4U Enablement Kit (P/N 637464-B2). | |
| | NOTE: If RPS option is enabled on the system, the combination of all Internal Media Drives cannot exceed 1. | |
| | Power Options | |
| | HP RPS G7 4U Enablement Kit | 637464-B2 |

Step 3: Choose Additional Factory Integratable Options (only one of the following from each list unless otherwise noted)

| | | |
|---|--|-----------|
| HP Storage Controllers | HP Smart Array P410/256 BBWC 2-ports Int PCIe x8 FIO SAS Controller | 491195-B2 |
| | HP Smart Array P410/ZM 2-ports Int PCIe x8 FIO SAS Controller | 462860-B2 |
| | HP Smart Array P212/256 BBWC 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller | 491191-B2 |
| HP Insight Software | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License | 582765-B2 |
| | HP Insight Control for Linux including 1yr 24x7 Support ML/DL Bundle 1 Server FIO License | TC203 |
| HP ProLiant Foundation Pack Software | HP ProLiant Foundation Pack Single Release Factory Integrated Software | 534516-B2 |

Step 4: Choose Additional Options for Factory Integration

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

QuickSpecs

HP ProLiant ML110 Generation 7

Core Options

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

| | | |
|------------------|---|-----------|
| HP Memory | HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500672-B2 |
| | HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500670-B2 |

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 at: www.hp.com/go/ddr3memory-configurator.

| | | |
|--------------------------|---|------------|
| HP Optical Drives | HP Half-Height SATA DVD-ROM Optical Drive | 447326-B21 |
| | HP Half-Height SATA DVD-RW Optical Drive | 447328-B21 |

| | | |
|------------------------------|-----------------------------------|------------|
| HP Drive Cage Options | HP 4U LFF Hot Plug Drive Cage Kit | 637216-B21 |
| | HP 4U SFF Hot Plug Drive Cage Kit | 637460-B21 |

NOTE: To make the above drive cage functional, HDDs, cable and backplane are needed.

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.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

| | |
|---|------------|
| HP 900GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 619291-B21 |
| HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |
| HP 146GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512547-B21 |
| HP 146GB 6G SAS 10K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507125-B21 |
| HP 72GB 6G SAS 15K rpm SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512545-B21 |

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

| | |
|---|------------|
| HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516828-B21 |
| HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516816-B21 |
| HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516814-B21 |

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

| | |
|---|------------|
| HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive | 605835-B21 |
| HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) Dual Port Midline 1yr Warranty Hard Drive | 507610-B21 |

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives



Core Options

HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive 507616-B21

HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) Dual Port Midline 1yr Warranty Hard Drive 507614-B21

SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

NOTE: Support for SAS non-hot plug drives requires HP SAS/Smart Array Controller. See Step 3 below.

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive 516830-B21

HP 450GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive 516826-B21

HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Non-hot Plug Dual Port Enterprise 3yr Warranty Hard Drive 516824-B21

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

http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide)

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

HP 1TB 3G SATA 7.2K rpm SFF (2.5-inch) Hot Plug Midline 1yr Warranty Hard Drive 625609-B21

HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive 507750-B21

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive 507632-B21

HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive 454146-B21

HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive 458928-B21

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive 571230-B21

HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive 458945-B21

SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

HP 3TB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Midline 1y Wty Hard Drive 628063-B21

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

SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives

HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive 571232-B21

HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive 458947-B21

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

http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide)

QuickSpecs

HP ProLiant ML110 Generation 7

Core Options

| | | |
|----------------------|--|------------|
| HP Networking | HP NC112T PCI Express Gigabit Server Adapter | 503746-B21 |
| | HP NC360T PCI-E Dual Port Gigabit Server Adapter | 412648-B21 |
| | HP NC365T 4-port Ethernet Server Adapter | 593722-B21 |
| | HP NC373T PCI-E Multifunction Gigabit Server Adapter | 394791-B21 |
| | HP NC375T PCI Express Quad Port Gigabit Server Adapter | 538696-B21 |
| | HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter | 458492-B21 |

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

| | | |
|---------------------------------|---|------------|
| HP I/O Expansion Options | HP Dedicated iLO Management Port Option | 514206-B21 |
|---------------------------------|---|------------|

| | | |
|--------------------------|--|------------|
| HP Power Supplies | HP 460W Common Slot Gold Hot Plug Power Supply Kit | 503296-B21 |
| | <p>NOTE: To upgrade to the HP 460W Common Slot Gold Hot Plug Power Supply and to add support for redundant power supplies, customers need to purchase one HP RPS G7 4U Enablement Kit (P/N 637464-B21).</p> <p>NOTE: If RPS option is enabled on the system, the combination of all Internal Media Drives cannot exceed 1.</p> | |
| | Power Options | |
| | HP RPS G7 4U Enablement Kit | 637464-B21 |

SOLO NETWORK

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 | T9074BAE |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Electronic License | TC278AAE |
| | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Tracking License | TC275A |
| | HP Insight Software Media Kit | 436222-B21 |
| | <p>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.</p> <p>NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.</p> <p>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.</p> <p>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.</p> <p>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.</p> <p>NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html</p> | |
| | HP Insight Control for Linux | |
| | HP Insight Control for Linux w/1yr 24x7 Supp ML/DL/SL Bundle Electronic 1 Svr LTU | TC203AAE |
| | HP Insight Control for Linux including 1yr 24x7 Support Electronic License | TC213AAE |
| | HP Insight Control for Linux including 1yr 24x7 Support Single Server License | TC209A |
| | HP Insight Control for Linux Media Kit | TC208A |
| | <p>NOTE: Media pack DVD contains the ISO image for HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately.</p> <p>NOTE: Licenses ship without media. The Media Kit for Insight Control for Linux can be ordered separately, or can be downloaded at: http://www.hp.com/go/ic-linux (click on Download button).</p> <p>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.</p> <p>NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.</p> <p>NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html</p> | |
| | HP Insight Control server deployment | |
| | HP Insight Control Server Deployment including 1yr 24x7 Support Electronic License | T9082AAE |

Additional Options

HP Insight Control Server Deployment including 1yr 24x7 Support Single Server License 452151-B21

NOTE: Licenses ship without media. The Insight Control Media Kit can be ordered separately, or can be downloaded at:

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

NOTE: Electronic licenses can be used to purchase multiple licenses with a single activation key, and is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.

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 Integrated Lights-Out (iLO) Advanced

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Electronic License TA850AAE

NOTE: Electronic software is available in all countries except China and Japan.

Customers in China and Japan should order the physical equivalent.

HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License 512485-B21

NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. 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 Service.

NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html

HP Security (TPM) HP Trusted Platform Module Option 488069-B21

NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline.

NOTE: For more information about TPM, please visit: www.hp.com/go/TPM

NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.

NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss.

QuickSpecs

HP ProLiant ML110 Generation 7

Additional Options

HP Storage Controllers

SAS Controllers

NOTE: Support for SAS hard drives/tape drive requires selection of a SAS controller.

NOTE: Support for hardware RAID requires selection of a SAS controller.

Smart Array P212 Controller

HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller 462828-B21

HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller 462834-B21

Smart Array P410 Controller

HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller 462862-B21

HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller 462864-B21

HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller 572532-B21

HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller 578230-B21

Optional Upgrades

HP 1GB Flash Backed Cache 534562-B21

HP 512MB Flash Backed Write Cache 534916-B21

HP 256MB P-series Cache Upgrade 462968-B21

HP 512MB P-Series Battery Backed Write Cache Upgrade 462967-B21

HP 650 mAh P-Series Battery 462969-B21

NOTE: Required to enable BBWC on the 256MB cache.

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

http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html
(Smart Array P212 Controller)

http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html
(Smart Array P410 Controller)

HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License 516471-B21

HP Smart Array Hot Plug Advance Pack for B110i w/1y 24x7 Supp Physical 1 Svr LTU TC421A

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

http://h18004.www1.hp.com/products/quickspecs/13200_div/13200_div.html
(Worldwide)

SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter 412911-B21

NOTE: Supports SCSI Tapes only, no RAID support.

NOTE: HBA is recommended for SCSI tape drive support.

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

http://h18004.www1.hp.com/products/quickspecs/12566_div/12566_div.html
(SC11Xe HBA)

Additional Options

HP Tape Backup

NOTE: For the complete range of tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HP tape backup products see: <http://www.hp.com/go/connect>.

HP StorageWorks DAT 320 USB Internal Tape Drive

AJ825A

HP StorageWorks DAT 320 SAS Internal Tape Drive

AJ830A

NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.

HP StorageWorks Ultrium 448 SAS Internal Drive

DW085A

NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.

HP StorageWorks Ultrium 920 SAS Internal Tape Drive

EH847A

NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.

HP StorageWorks 1/8 G2 Ultrium 920 SAS Autoloader

AH558A

NOTE: Requires HP 1U Tape Autoloader Rack-Mount Kit (AH166A) for rack installation. Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.

HP StorageWorks MSL2024 Ultrium 920 SAS Tape Library

AH559A

NOTE: Connection using HP P212 Smart Array Controller SAS (462828-B21) recommended.

HP Disk Backup

NOTE: For the complete range of D2D Backup Systems see: <http://www.hp.com/go/d2d>. For the complete range of RDX drives and media see: <http://www.hp.com/go/rdx>. For hardware and software compatibility of HP disk backup products see: <http://www.hp.com/go/connect>.

HP D2D Backup Systems with Backup Data Deduplication

NOTE: These are network connected appliances with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks D2D2502i Backup System

EJ001B

NOTE: 1.5TB of usable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

HP StorageWorks D2D2504i Backup System

EJ002B

NOTE: 3.0TB of usable network disk backup capacity. Network connected appliance with connectivity using the iSCSI protocol. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended.

USB Removable Media RDX Disk Backup Systems

HP StorageWorks RDX320 Internal Removable Disk Backup System

AJ767A

NOTE: 320GB of disk capacity per data cartridge.

HP StorageWorks RDX500 Internal Removable Disk Backup System

AJ934A

NOTE: 500GB of disk capacity per data cartridge.

HP StorageWorks RDX1000 Internal Removable Disk Backup System

BV847A

NOTE: 1TB of disk capacity per data cartridge.

QuickSpecs

HP ProLiant ML110 Generation 7

Additional Options

HP Uninterruptible Power Systems

HP Tower UPS

HP T750 G2 UPS Models

HP T750 G2 750VA INTL Tower Uninterruptible Power System AF447

HP T750 G2 750VA NA Tower Uninterruptible Power System AF44E

HP T750J JP Uninterruptible Power System AF45C

HP T1000 G3 UPS Models

HP T1000 G3 1000VA INTL Tower Uninterruptible Power System AF44E

HP T1000 G3 1000VA NA Tower Uninterruptible Power System AF44E

HP T1000J JP Uninterruptible Power System AF457

NOTE: For additional information regarding HP Uninterruptible Power Systems, please see the following URL: www.hp.com/go/rackandpower (Worldwide)

NOTE: For additional information on sizing your server, please reference: <http://www.upssizer.com>

NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.

HP Rack Series

HP Rack 10000 G2 Series (Graphite Metallic)

HP 10642 G2 1200mm deep Shock Rack AF09Z

HP 10647 G2 1200mm deep Shock Rack AF09A

HP 10642 G2 Pallet Universal Rack AF001

HP 10642 G2 Shock Universal Rack AF00Z

NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.

NOTE: Please see the Rack 10000 G2 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:

http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html (Worldwide)

NOTE: For additional information regarding Rack Cabinets, please see the following URL: <http://www.hp.com/go/rackandpower> (Worldwide)

NOTE: The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 G2 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.



QuickSpecs

HP ProLiant ML110 Generation 7

Additional Options

NOTE: Support for all 2 and 4 post Telco racks and threaded hole racks requires an additional option kit from Rack Solutions. The Rack Solutions brackets can be purchased at: www.hp.com/go/rackandpower.

| | | |
|---|---|-----------|
| HP Rack Options | HP USB BFR with PVC Free US Keyboard/Mouse Kit | 631341-B2 |
| | HP USB BFR with PVC Free UK Keyboard/Mouse Kit | 631344-B2 |
| | HP USB BFR with PVC Free FR Keyboard/Mouse Kit | 631346-B2 |
| | HP USB BFR with PVC Free ES Keyboard/Mouse Kit | 631348-B2 |
| | HP USB BFR with PVC Free DE Keyboard/Mouse Kit | 631358-B2 |
| | HP USB BFR with PVC Free JP Keyboard/Mouse Kit | 631360-B2 |
| | HP USB BFR with PVC Free IT Keyboard/Mouse Kit | 631362-B2 |
| | HP USB BFR with PVC Free CN Keyboard/Mouse Kit | 631364-B2 |
| | HP USB BFR with PVC Free AE Keyboard/Mouse Kit | 638212-B2 |
| | HP USB BFR with PVC Free RU Keyboard/Mouse Kit | 638214-B2 |
| | NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13972_div/13972_div.html (Worldwide) | |
| | HP KVM Switch Options | |
| | HP Server Console 0x2x8 Port Analog Switch | AF616 |
| | HP Server Console 0x2x16 Port Analog Switch | AF617 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html (Worldwide) | | |
| HP 0x2x16 KVM Server Console Switch G2 with Virtual Media CAC Software | AF618 | |
| HP 0x2x32 KVM Server Console Switch G2 with Virtual Media CAC Software | AF619 | |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13475_div/13475_div.html (Worldwide) | | |
| HP 1x1Ex8 KVM IP Console Switch G2 with Virtual Media CAC Software | AF620 | |
| HP 2x1Ex16 KVM IP Console Switch G2 with Virtual Media CAC Software | AF621 | |
| HP 4x1Ex32 KVM IP Console Switch G2 with Virtual Media CAC Software | AF622 | |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13474_div/13474_div.html (Worldwide) | | |
| Rack Kit | | |
| HP Tower to Rack Conversion Tray Universal Kit | 417705-B2 | |

QuickSpecs

HP ProLiant ML110 Generation 7

Additional Options

HP Care Pack Services Hardware Services Next Business Day On-Site Service

| | |
|---|-------|
| HP 3 year Next business day ProLiant ML110 Hardware Support | U4433 |
|---|-------|

Hardware Services - 4-Hour On-site Service

| | |
|---|-------|
| HP 3 year 4 hour 13x5 ProLiant ML110 Hardware Support | U4434 |
|---|-------|

| | |
|---|-------|
| HP 3 year 4 hour 24x7 ProLiant ML110 Hardware Support | U4435 |
|---|-------|

Hardware Services 6-Hour Call to Repair On-Site Service

| | |
|--|-------|
| HP 3 year 6 hour 24x7 Call to Repair ProLiant ML110 Hardware Support | U4436 |
|--|-------|

Hardware Installation

| | |
|-----------------------------------|-------|
| HP Install ProLiant ML110 Service | U4444 |
|-----------------------------------|-------|

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

SOLO NETWORK

QuickSpecs

HP ProLiant ML110 Generation 7

Memory

HP ProLiant ML110 G7 Models

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

Standard Memory

SATA Models:

2GB or 4 GB of PC3-10600E DDR3 UDIMM running up to 1333MHz with memory kits installed.

Standard Memory with Optional Memory

Up to 8GB of memory is available with the installation of standard and optional memory, 4x 2 GB PC3-10600E 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 1C and 3D are interleaving pair. Slots 2A and 4B are interleaving pair).

| Memory | | Slot | | | |
|--|--------------|--------|--------|--------|--------|
| | | DIMM1C | DIMM2A | DIMM3D | DIMM4B |
| Standard (Entry Model) | 2 GB | Empty | 2 GB | Empty | Empty |
| Standard (Base Model) | 2 GB | Empty | 2 GB | Empty | Empty |
| Standard (Performance Model) | 4 GB | Empty | 2 GB | Empty | 2 GB |
| Maximum | 16 GB | 4 GB | 4 GB | 4 GB | 4 GB |

Following are memory options available from HP:

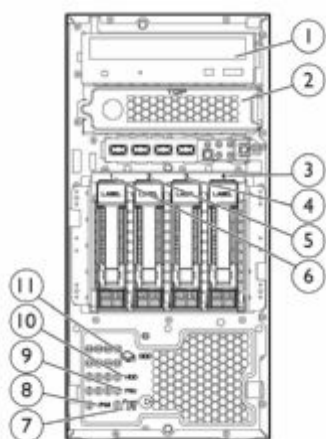
| | | |
|------------------|---|-----------|
| HP Memory | HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500672-B2 |
| | HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit | 500670-B2 |

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.

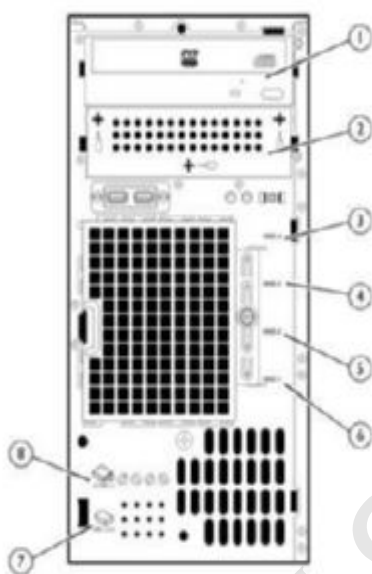
QuickSpecs

HP ProLiant ML110 Generation 7

Storage



1. 1st removable media drive
2. 2nd removable media drive
3. 4th SAS/SATA hard drive
4. 3rd SAS/SATA hard drive
5. 2nd SAS/SATA hard drive
6. 1st SAS/SATA hard drive
7. Front I/O spare screw
8. IPMI spare screw
9. PSU module spare screws
10. HDD care spare screws
11. ODD spare screw



1. 1st removable media drive
2. 2nd removable media drive
3. 4th SAS/SATA hard drive
4. 3rd SAS/SATA hard drive
5. 2nd SAS/SATA hard drive
6. 1st SAS/SATA hard drive
7. HDD spare screws
8. Removable media drive spare screws

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)

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

| | Quantity Supported | Position Supported | Controller |
|---|--------------------|--------------------|---|
| 2TB 3G 7.2K 1TB 3G 7.2K 500GB 3G 7.2K | Up to 4 | 3,4,5,6 | Smart Array B110i SATA RAID Controller (RAID 0/1/10) NOTE: Hardware RAID support requires purchase of HP Smart Array P212 Controller. |



QuickSpecs

HP ProLiant ML110 Generation 7

Storage

SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives

| | Quantity Supported | Position Supported | Controller |
|---------------|--------------------|--------------------|---|
| 250GB 3G 7.2K | Up to 4 | 3,4,5,6 | Smart Array B110i SATA RAID Controller (RAID 0/1/10) NOTE: Hardware RAID requires purchase of HP Smart Array P212 Controller. |
| 160GB 3G 7.2K | | | |

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|--------------------|--------------------|--------------------|--|
| 1TB 3G SATA 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |
| 500GB 3G SATA 7.2K | | | |

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|---------------|--------------------|--------------------|--|
| 2TB 3G 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |
| 1TB 3G 7.2K | | | |
| 500GB 3G 7.2K | | | |

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|---------------|--------------------|--------------------|--|
| 250GB 3G 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |
| 160GB 3G 7.2K | | | |

SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|---------------|--------------------|--------------------|--|
| 2TB 3G 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |
| 1TB 3G 7.2K | | | |
| 500GB 3G 7.2K | | | |

SATA Non-Hot Plug LFF (3.5-inch) Entry (ETY) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|--|--------------------|--------------------|------------|
|--|--------------------|--------------------|------------|



QuickSpecs

HP ProLiant ML110 Generation 7

Storage

| | | | |
|--------------------------------|---------|---------|--|
| 250GB 3G 7.2K 160GB 3G 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |
|--------------------------------|---------|---------|--|

Hard Drives (SAS Models only)

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|---|--------------------|--------------------|--|
| 900GB 6G SAS 10K 300GB 6G SAS 15K 146GB 6G SAS 15K 146GB 6G SAS 10K 72GB 6G SAS 15K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|--|--------------------|--------------------|--|
| 600GB 6G SAS 15K 450GB 6G SAS 15K 300GB 6G SAS 15K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|--------------------------------------|--------------------|--------------------|--|
| 1TB 6G SAS 7.2K 500GB 6G SAS 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|------------------------------------|--------------------|--------------------|--|
| 2TB 6G SAS 7.2K 1TB 6G SAS 7.2K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|--|--------------------|--------------------|--|
| 600GB 6G SAS 15K 450GB 6G SAS 15K 300GB 6G SAS 15K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |



QuickSpecs

HP ProLiant ML110 Generation 7

Storage

SAS Non-Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

NOTE: SAS non-hot plug drives require HP SAS/Smart Array Controller.

| | Quantity Supported | Position Supported | Controller |
|--------------|--------------------|--------------------|--|
| 600GB 6G 15K | Up to 4 | 3,4,5,6 | Smart Array P212 Controller NOTE: Transfer rates of drives are dependent on the maximum transfer rate supported by the Controller. Refer to the Controller technical specifications for details. |
| 450GB 6G 15K | | | |
| 300GB 6G 15K | | | |

Maximum Storage Capacity - SATA/SAS Models

| Internal | SATA | SAS |
|----------|-----------------|-----------------|
| | 8.0TB (4 x 2TB) | 8.0TB (4 x 2TB) |

Tape and Disk-Based Backup

NOTE: For the complete range of tape drives, autoloaders, libraries and media, including the internal fitting models, see: <http://www.hp.com/go/tape>. For the complete range of D2D Backup Systems see: <http://www.hp.com/go/d2d>. For the complete range of RDX drives and media see: <http://www.hp.com/go/rdx>. For hardware and software compatibility of HP disk and tape backup products see: <http://www.hp.com/go/connect>.

| | Position | Recommended Controller | Part Number |
|--------------------------------|----------------------|---|-------------|
| HP SCSI Tape Drives | Internal or External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter | 412911-B2 |
| LTO-1 Ultrium 232 | | | |
| LTO-2 Ultrium 448 | | | |
| LTO-3 Ultrium 920 | | | |
| LTO-3 Ultrium 960 | | | |
| LTO4 Ultrium 1760 | | | |
| LTO-4 Ultrium 1840 | | | |
| DAT 40 | | | |
| DAT 72 | | | |
| DAT 160 | | | |
| HP SCSI Rack Mount Kits | External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter | 412911-B2 |
| 1U Rack-Mount Kit | | | |
| 3U Rack-Mount Kit | | | |
| HP USB Tape Drives | Internal or External | USB 2.0 Port | N/A |
| DAT 40 | | | |
| DAT 72 | | | |
| DAT 160 | | | |
| DAT 320 | | | |
| HP USB Rack Mount Kits | External | USB 2.0 Port | N/A |
| 1U USB Rack-Mount Kit | | | |
| HP SAS Tape Drives | Internal or External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462828-B2 |
| DAT 160 | | | |
| DAT 320 | | | |
| LTO-2 Ultrium 448 | | | |
| LTO-3 Ultrium 920 | | | |
| LTO-4 Ultrium 1760 | | | |



QuickSpecs

HP ProLiant ML110 Generation 7

Storage

LTO-4 Ultrium 1840
LTO-5 Ultrium 3000
LTO-5 Ultrium 3280

| | | | |
|--|----------------------|--|-----------|
| HP SAS Rack Mount Kits 1U Rack-Mount Kit 3U Rack-Mount Kit | External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462828-B2 |
| HP SCSI Tape Autoloaders DAT 72x10 Autoloader 1/8 G2 Autoloader | External | HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter | 412911-B2 |
| HP SCSI Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000 | External | HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter | AH627 |
| HP SAS Tape Autoloaders and Libraries 1/8 G2 Autoloader MSL2024 MSL4048 MSL8096 | External | HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller | 462828-B2 |
| HP Fibre Channel Tape Libraries MSL2024 MSL4048 MSL8096 MSL6000 | External | Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for connectivity information and the supported Fibre Channel HBAs shown in this QuickSpecs. | |
| HP USB RDX Removable Disk Backup System RDX160 RDX320 RDX500 RDX750 RDX 1TB | Internal or External | USB 2.0 port | N |
| HP D2D Backup Systems, iSCSI D2D2500i D2D4000i | External | Embedded Network Controller. If the server requires a hardware iSCSI initiator, the QLogic QLA4050 Host Bus Adapter is recommended. | |
| HP D2D Backup Systems, Fibre Channel D2D4000fc | External | Direct server attach is not supported, requires connection via SAN fabric. See: http://www.hp.com/go/connect | |



QuickSpecs

HP ProLiant ML110 Generation 7

Power Specifications

| HP 350W Factory Integrated Power Supply Kit | | | | | | | |
|--|------------|------|------|------|------|------|------|
| Part Number | 646146-B21 | | | | | | |
| Operational Input Voltage Range (Vrms) | 100 to 240 | | | | | | |
| Frequency Range (Nominal) (Hz) | 50/60 | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 200 | 208 | 220 | 230 | 240 |
| Max Rated Output Wattage Rating | 350 | 350 | 350 | 350 | 350 | 350 | 350 |
| Nominal Input Current (A rms) | 4.7 | 3.9 | 2.3 | 2.2 | 2.0 | 1.9 | 1.9 |
| Max Rated Input Wattage Rating (Watts) | 475 | 465 | 450 | 450 | 450 | 450 | 450 |
| Max. Rated VA (Volt-Amp) | 476 | 466 | 456 | 455 | 455 | 455 | 456 |
| Efficiency (%) | 73.7 | 75.2 | 77.8 | 77.8 | 77.8 | 77.8 | 77.8 |
| Power Factor | 0.99 | 0.99 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Leakage Current (mA) | <3.5 | | | | | | |
| Maximum Inrush Current (A peak) | 20 | | | | | | |
| Maximum Inrush Current duration (mS) | N/A | N/A | N/A | | | N/A | N/A |
| Maximum British Thermal Unit Rating (BTU-Hr) | 1551 | 1517 | 1493 | 1493 | 1493 | 1493 | 1493 |

| HP 460W Common Slot Gold Hot Plug Power Supply Kit | | | | | | | |
|--|------------|------|------|------|------|------|------|
| Part Number | 503296-B21 | | | | | | |
| Input Voltage Range (V rms) | 100 to 240 | | | | | | |
| Frequency Range (Nominal) (Hz) | 50/60 | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 200 | 208 | 220 | 230 | 240 |
| Max Rated Output Wattage Rating | 460 | 460 | 460 | 460 | 460 | 460 | 460 |
| Nominal Input Current (A rms) | 5.5 | 4.5 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 |
| Max Rated Input Wattage Rating (Watts) | 526 | 520 | 505 | 505 | 503 | 503 | 503 |
| Max. Rated VA (Volt-Amp) | 548 | 542 | 527 | 527 | 524 | 524 | 524 |
| Efficiency (%) | 87.5 | 88.5 | 91 | 91 | 91.5 | 91.5 | 91.5 |
| Power Factor | 0.97 | | | | | | |
| Leakage Current (mA) | 0.42 | 0.50 | 0.83 | 0.87 | 0.92 | 0.96 | 1.00 |
| Maximum Inrush Current (A peak) | 30 | | | | | | |
| Maximum Inrush Current duration (mS) | 20 | | | | | | |
| Maximum British Thermal Unit Rating (BTU-Hr) | 1794 | 1773 | 1725 | 1725 | 1715 | 1715 | 1715 |

QuickSpecs

HP ProLiant ML110 Generation 7

System Specifications

| | Power ** |
|--|---|
| HP ProLiant ML110 G7 Fully Configured | (see **) |
| Fully Loaded System output Wattage (W) | 350W |
| Fully Loaded System Input Current (A rms) | 5A @ 100V, 2.5A @ 200V |
| Fully Loaded System Thermal (BTU- Hr) | 1658 |
| Fully Loaded System VA (Volt-Amp) | 490 VA |
| System Leakage with all power supplies loaded (mA) | 0.45mA@110V 0.45mA@220V |
| System Inrush Current with all power supplies loaded (A) | <150A@240Vac |
| 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 ** |
|--|---|
| HP ProLiant ML110 G7 Fully Configured | (see **) |
| Fully Loaded System output Wattage (W) | 460W |
| Fully Loaded System Input Current (A rms) | 5.5A @ 100V, 2.6A @ 200V |
| Fully Loaded System Thermal (BTU- Hr) | 1794 |
| Fully Loaded System VA (Volt-Amp) | 548 |
| System Leakage with all power supplies loaded (mA) | 0.5mA@110V 0.92mA@220V |
| System Inrush Current with all power supplies loaded (A) | 30A/20mS @240Vac |
| 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 | |
| Taiwan | 393312-001 |
| Japan | 139867-005 |
| India | 397138-002 |
| Brazil | 285052-001 |
| Australia | 100661-001 |
| Euro | 100614-009 |
| PRC | 286496-001 |
| UK | 100613-008 |
| US | 121565-001 |
| ITL | 109197-008 |

QuickSpecs

HP ProLiant ML110 Generation 7

System Specifications

NOTE: To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: <http://www.hp.com/go/hppoweradvisor>

To drill down to calculators:

- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: ML110 G7
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

SOLO NETWORK

QuickSpecs

HP ProLiant ML110 Generation 7

Technical Specifications

| | | | | | | | | | | | | | | | | | | | | |
|---|--|---|---|---|---|---|--|---------------------|---|--|---|--------------------|--|---------------------|---|----------------|---|---------------------|--|---------------------|
| System Unit | Dimensions (HxWxD) (with feet) | 14.4 x 6.9 x 18.6 in (36.7 x 17.5 x 47.25 cm) | | | | | | | | | | | | | | | | | | |
| | Weight (approximate) | <table border="0"> <tr> <td>Hot Plug LFF Full Loading Single Package weight</td> <td>20.60kg (45.32 lb)</td> </tr> <tr> <td>Hot Plug LFF Full Loading without Package</td> <td>16.20kg. (35.64 lb)</td> </tr> <tr> <td>Hot Plug LFF light Loading without Package</td> <td>13.80kg. (30.36 lb)</td> </tr> <tr> <td>Hot Plug SFF Full Loading Single Package weight</td> <td>21.40kg (47.08 lb)</td> </tr> <tr> <td>Hot Plug SFF Full Loading without Package</td> <td>17.00kg. (37.4 lb)</td> </tr> <tr> <td>Hot Plug SFF light Loading without Package</td> <td>14.60kg. (32.12 lb)</td> </tr> <tr> <td>Non Hot Plug LFF Full Loading Single Package weight</td> <td>19kg (41.8 lb)</td> </tr> <tr> <td>Non Hot Plug LFF Full Loading without Package</td> <td>14.60kg. (32.12 lb)</td> </tr> <tr> <td>Non Hot Plug LFF light Loading without Package</td> <td>12.20kg. (26.84 lb)</td> </tr> </table> | Hot Plug LFF Full Loading Single Package weight | 20.60kg (45.32 lb) | Hot Plug LFF Full Loading without Package | 16.20kg. (35.64 lb) | Hot Plug LFF light Loading without Package | 13.80kg. (30.36 lb) | Hot Plug SFF Full Loading Single Package weight | 21.40kg (47.08 lb) | Hot Plug SFF Full Loading without Package | 17.00kg. (37.4 lb) | Hot Plug SFF light Loading without Package | 14.60kg. (32.12 lb) | Non Hot Plug LFF Full Loading Single Package weight | 19kg (41.8 lb) | Non Hot Plug LFF Full Loading without Package | 14.60kg. (32.12 lb) | Non Hot Plug LFF light Loading without Package | 12.20kg. (26.84 lb) |
| Hot Plug LFF Full Loading Single Package weight | 20.60kg (45.32 lb) | | | | | | | | | | | | | | | | | | | |
| Hot Plug LFF Full Loading without Package | 16.20kg. (35.64 lb) | | | | | | | | | | | | | | | | | | | |
| Hot Plug LFF light Loading without Package | 13.80kg. (30.36 lb) | | | | | | | | | | | | | | | | | | | |
| Hot Plug SFF Full Loading Single Package weight | 21.40kg (47.08 lb) | | | | | | | | | | | | | | | | | | | |
| Hot Plug SFF Full Loading without Package | 17.00kg. (37.4 lb) | | | | | | | | | | | | | | | | | | | |
| Hot Plug SFF light Loading without Package | 14.60kg. (32.12 lb) | | | | | | | | | | | | | | | | | | | |
| Non Hot Plug LFF Full Loading Single Package weight | 19kg (41.8 lb) | | | | | | | | | | | | | | | | | | | |
| Non Hot Plug LFF Full Loading without Package | 14.60kg. (32.12 lb) | | | | | | | | | | | | | | | | | | | |
| Non Hot Plug LFF light Loading without Package | 12.20kg. (26.84 lb) | | | | | | | | | | | | | | | | | | | |
| | 350W Input Requirements (per power supply) | <table border="0"> <tr> <td>Rated Line Voltage</td> <td>90 to 132 VAC, 180 to 264 VAC</td> </tr> <tr> <td>Rated Input Current</td> <td>5 A (at 100 VAC), 2.5 A (at 200 VAC)</td> </tr> <tr> <td>Rated Input Frequency</td> <td>47 to 63 Hz</td> </tr> <tr> <td>Rated Input Power</td> <td>486W (at 100 VAC), 480 W (at 200 VAC)</td> </tr> </table> | Rated Line Voltage | 90 to 132 VAC, 180 to 264 VAC | Rated Input Current | 5 A (at 100 VAC), 2.5 A (at 200 VAC) | Rated Input Frequency | 47 to 63 Hz | Rated Input Power | 486W (at 100 VAC), 480 W (at 200 VAC) | | | | | | | | | | |
| Rated Line Voltage | 90 to 132 VAC, 180 to 264 VAC | | | | | | | | | | | | | | | | | | | |
| Rated Input Current | 5 A (at 100 VAC), 2.5 A (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| Rated Input Frequency | 47 to 63 Hz | | | | | | | | | | | | | | | | | | | |
| Rated Input Power | 486W (at 100 VAC), 480 W (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| | Power Specifications | To review typical 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) | <table border="0"> <tr> <td>Rated Steady-State Power</td> <td>350 W (at 100 VAC), 350 W (at 200 VAC)</td> </tr> <tr> <td>Maximum Peak Power</td> <td>350 W (at 100 VAC), 350 W (at 200 VAC)</td> </tr> </table> | Rated Steady-State Power | 350 W (at 100 VAC), 350 W (at 200 VAC) | Maximum Peak Power | 350 W (at 100 VAC), 350 W (at 200 VAC) | | | | | | | | | | | | | | |
| Rated Steady-State Power | 350 W (at 100 VAC), 350 W (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| Maximum Peak Power | 350 W (at 100 VAC), 350 W (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| | 460W Input Requirements (per power supply) | <table border="0"> <tr> <td>Rated Line Voltage</td> <td>90 to 132 VAC, 180 to 264 VAC</td> </tr> <tr> <td>Rated Input Current</td> <td>5.5 A (at 100 VAC), 2.6 A (at 200 VAC)</td> </tr> <tr> <td>Rated Input Frequency</td> <td>47 to 63 Hz</td> </tr> <tr> <td>Rated Input Power</td> <td>526W (at 100 VAC), 505 W (at 200 VAC)</td> </tr> </table> | Rated Line Voltage | 90 to 132 VAC, 180 to 264 VAC | Rated Input Current | 5.5 A (at 100 VAC), 2.6 A (at 200 VAC) | Rated Input Frequency | 47 to 63 Hz | Rated Input Power | 526W (at 100 VAC), 505 W (at 200 VAC) | | | | | | | | | | |
| Rated Line Voltage | 90 to 132 VAC, 180 to 264 VAC | | | | | | | | | | | | | | | | | | | |
| Rated Input Current | 5.5 A (at 100 VAC), 2.6 A (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| Rated Input Frequency | 47 to 63 Hz | | | | | | | | | | | | | | | | | | | |
| Rated Input Power | 526W (at 100 VAC), 505 W (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| | Power Specifications | To review typical 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) | <table border="0"> <tr> <td>Rated Steady-State Power</td> <td>460 W (at 100 VAC), 460 W (at 200 VAC)</td> </tr> <tr> <td>Maximum Peak Power</td> <td>460 W (at 100 VAC), 460 W (at 200 VAC)</td> </tr> </table> | Rated Steady-State Power | 460 W (at 100 VAC), 460 W (at 200 VAC) | Maximum Peak Power | 460 W (at 100 VAC), 460 W (at 200 VAC) | | | | | | | | | | | | | | |
| Rated Steady-State Power | 460 W (at 100 VAC), 460 W (at 200 VAC) | | | | | | | | | | | | | | | | | | | |
| Maximum Peak Power | 460 W (at 100 VAC), 460 W (at 200 VAC) | | | | | | | | | | | | | | | | | | | |

QuickSpecs

HP ProLiant ML110 Generation 7

Technical Specifications

| | | |
|---|--|---|
| 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 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 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 fault or above 42°C (107.6°F). |
| | Non-operating | -35° to 65°C (-31° to 149°F). Maximum rate of change is 20°C/hr (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 | 10% to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing. |
| Altitude | Operating | 3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 609 m/min (2000 ft/min). |
| | Non-operating | 9144 m (30,000 ft). Maximum allowable altitude change rate is 609 m/min (2000 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 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). | |
| | Idle | |
| | L <i>WAd</i> | 4.4 Bels |
| | L <i>pAm</i> | 27.1 dBA |
| | Operating | |
| | L <i>WAd</i> | 4.4 Bels |
| | L <i>pAm</i> | 27.2 dBA |
| Emissions Classification (EMC) | FCC Rating | Class B |
| | Normative Standards | CISPR 22; EN55022; EN55024; FCC CFR 4 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.

QuickSpecs

HP ProLiant ML110 Generation 7

Technical Specifications

| | | |
|--|---------------------------------------|---|
| 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) Microsoft Windows Server 2003 and Windows Server 2003 R2, and Windows Server 2003 for Embedded Systems Standard Edition, Enterprise Edition Red Hat Enterprise Linux 5.5 (32 bit and 64 bit) Red Hat Enterprise Linux 6(32 bit and 64 bit) 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 Red Hat Enterprise Desktop 5.00 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 | Secure Shell and serial port access |
| | Security | 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 |
| | Directory Support Services | Active Directory v1.0 (Windows 2003) |
| | 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 |

QuickSpecs

HP ProLiant ML110 Generation 7

Technical Specifications

| | | | |
|--|-------------------|-------------------------------------|-----------------------------|
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Non-hot Plug Entry 1yr Warranty Hard Drive | 571232-B21 | Capacity | 250,059MB |
| | | Height | 1.028 in. (26.1 mm) |
| | | Maximum drive dimension | |
| | | Width | 4.00 in (101.6 mm) |
| | | Depth | 5.787 in (147.0 mm) |
| | | Maximum drive dimension | |
| | | Interface | Serial ATA |
| | | Transfer Rate (Maximum) | 3Gb/s |
| | | Native Command Queuing | Supported |
| | | Seek Time | Single Track 2.0 ms |
| | | (typical reads, including settling) | Average 11 ms |
| | | | Full-Stroke 21.0 ms |
| | | | Rotational Speed 7,200 rpm |
| | | Physical Configuration | Bytes/Sector 512 |
| | | | Logical Blocks 488,397,168 |
| | | Operating Temperature | 50° to 95° F (10° to 35° C) |
| | | (system inlet air temperature) | |

| | | |
|--|------------------|---|
| HP Half-Height 16X MaxDisk SATA DVD-ROM Optical 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, CD-RW, DVD-ROM, DVD+R, DVD+RW |
| | Capacity | 4.7 GB (DVD-5) 8.54 GB (DVD-9) |
| Block Size | DVD Media | 2,048 bytes |
| Interface | SATA | 1.5Gb/s |
| Access Times (typical) | Random | <140 ms |
| | Full-Stroke | <250 ms |
| Data Transfer Rate | Sustained | 21600 KB/s (16X) Maximum |
| Cache Buffer | 2MB Minimum | |
| Start-up Time (typical) (Not including tray in) | < 7 seconds | |
| Stop Time (Not including tray in) | < 4 seconds | |
| Laser Parameters | Type | Semiconductor Laser GaA1As |
| | Wave Length | 780 ± 25 nm |
| Operating Conditions | Temperature | 41° to 122° F (5° to 50° C) |
| | Humidity | 10% to 90% |
| Dimensions | (HxWxD, maximum) | 1.7 x 5.85 x 8.11 in (42.9 x 150 x 195 mm) |
| | Weight | 2.64 lb (1.2 kg) |

QuickSpecs

HP ProLiant ML110 Generation 7

Technical Specifications

| | | | |
|---|---|---|---------|
| HP Half-Height 16X MaxDisk SATA DVD-RW Optical 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, CD-RW, DVD-ROM, DVD+R, DVD+RW | |
| | Capacity | 4.7 GB (DVD-5) 8.54 GB (DVD-9) | |
| | Block Size | DVD Media 2,048 bytes | |
| | Interface | SATA 1.5Gb/s | |
| | Access Times (typical) | Random | <140 ms |
| | | Full-Stroke | <250 ms |
| | Data Transfer Rate | Sustained 21600 KB/s (16X) Maximum | |
| | Cache Buffer | 2MB Minimum | |
| | Start-up Time (typical) (Not including tray in) | < 7 seconds | |
| | Stop Time (Not including tray in) | < 4 seconds | |
| Laser Parameters | Type | Semiconductor Laser GaA1As | |
| | Wave Length | 780 ± 25 nm | |
| Operating Conditions | Temperature | 41° to 122° F (5° to 50° C) | |
| | Humidity | 10% to 90% | |
| Dimensions | (HxWxD, maximum) | 1.7 x 5.85 x 8.11 in (42.9 x 150 x 195 mm) | |
| | Weight | 2.64 lb (1.2 kg) | |

| | | | |
|---|------------------------------|---|----------|
| HP NC112i 1-port Ethernet Server Adapter | Network Interface | 10Base-T/ 100Base-TX/ 1000Base-TX | |
| | Ports | Single Port | |
| | | 802.3, 802.3u, 802.3x, 802.3ab, 802.3ad, 802.1p, 802.1Q PCIe Rev. 2.0 (2.5 GHz) x1 FCC (U.S. only) Class B DOC (Canada) Class B CE EN 55024, EN55022 Class B VCCI Class II UL 1950 CSA 950 EN 60950 CE ACPI 1.0 MicroSoft WHQL (Windows Hardware Quality Labs) | |
| | Data Transfer Method | Singlelane (x1) | |
| | Controller | Intel 82574L | |
| | Network Transfer Rate | 10Base-T (Half-Duplex) | 10 Mb/s |
| | | 10Base-T (Full-Duplex) | 20 Mb/s |
| | | 100Base-TX (Half-Duplex) | 100 Mb/s |
| | | 100Base-TX (Full-Duplex) | 200 Mb/s |



QuickSpecs

HP ProLiant ML110 Generation 7

Technical Specifications

| | | | |
|----------------------|--|------------------------------------|--|
| | | 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 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, 1GB = 1 billion bytes. Actual formatted capacity is less.