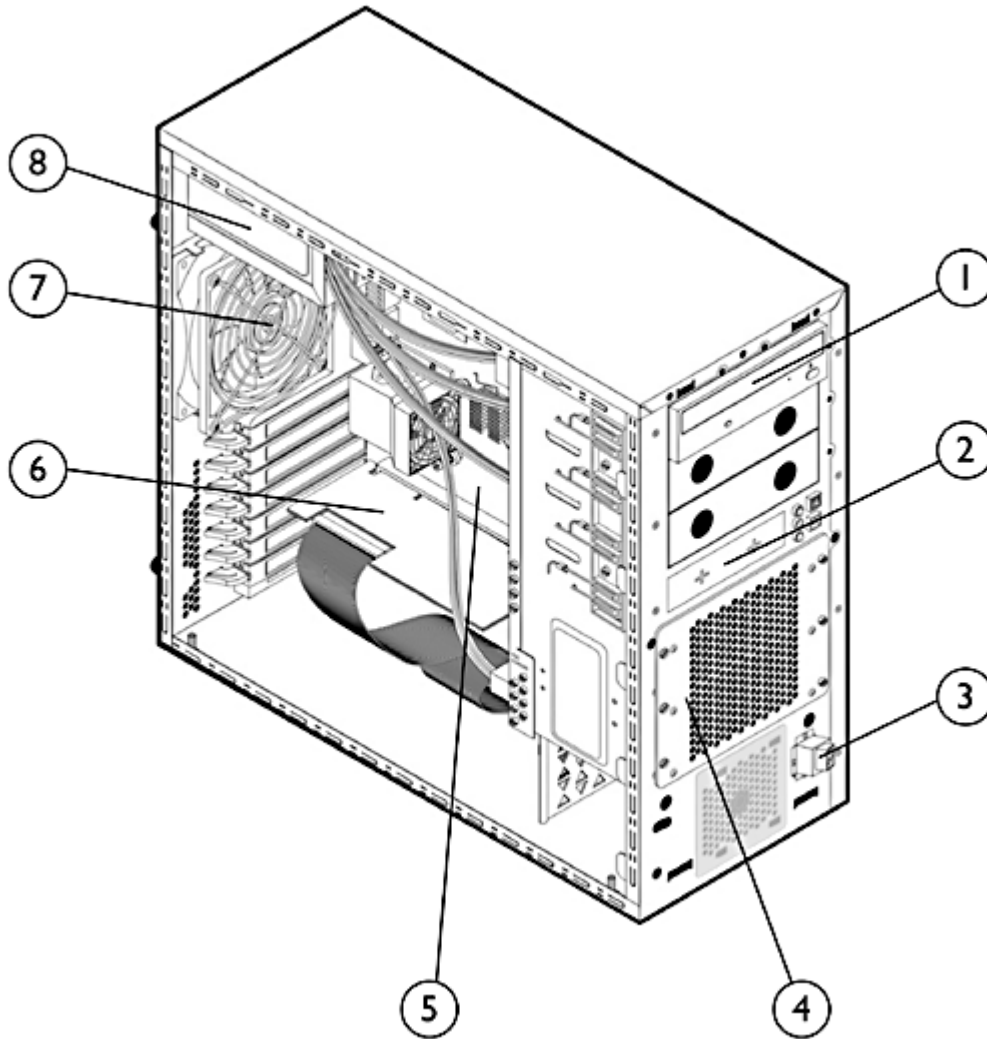


# QuickSpecs

HP ProLiant ML110 G2

## Overview



1. 48x CD-ROM & Two Removable Media Bays
2. 1.44MB Diskette Drive (Optional)
3. Two Front USB Ports
4. Four 1" Non-Hot Plug Drive Bays

5. Main System Board
6. Optional SCSI Controller
7. System Fan
8. Power Supply



## Overview

### What's New

- Supports Intel Pentium 4 Processor. 3.20 GHz supporting HyperThreading technology with un-buffered ECC memory and 800MHz front-side-bus.
- Supports Intel Pentium 4 Processor. 3.40 GHz supporting HyperThreading technology with un-buffered ECC memory and 800MHz front-side-bus.
- Supports Intel Celeron Processor. 2.80 GHz supporting HyperThreading technology with un-buffered ECC memory and 533MHz front-side-bus.
- Supports Intel Pentium 4 Processor. 3.0 GHz supporting HyperThreading technology with un-buffered ECC memory and 800MHz front-side-bus.
- Front side USB port for easy access of storage options via USB.
- Lights-Out Management card for ease of remote management.

### At A Glance

- Intel E7221 Chipset with 533MHz FSB (Celeron Models) and 800MHz FSB (Pentium 4)
- Memory: Supports 256 MB, 512 MB or 1 GB (Pentium 4 models) of PC3200 DDR SDRAM running at 400 MHz, with un-buffered standard ECC capabilities, expandable to 4 GB, optional interleaving.
- Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
- Integrated one Channel Ultra ATA for optical drive and 4 port Serial ATA (SATA) Host Controller or a Single Channel Ultra320 SCSI Adapter (SCSI Models)
- Support for up to four 1" Ultra320 non-hot plug SCSI hard drives or four 1" SATA NHP Drives or four 1" hot plug SATA HDD, (depending on Model & Accessories)
- Five total PCI slots (5 available on non-hot plug SATA models, 4 available on SCSI models, 4 available on hot plug SATA model): three 64-bit/100MHz PCI-X at 3.3 Volt and one 32-bit/33MHz PCI at 5 Volt and one x4 PCI-Express slot.
- Internal storage capacity of up to 584-GB (4 x 146-GB non-hot plug 1" SCSI HDD) (SCSI Models)
- Internal storage capacity of up to 1-TB (4 x 250-GB hot plug) and 320-GB (4 x 80-GB non-hot plug) 1" SATA HDD (SATA Model)
- Integrated ATI Rage XL with 8MB SDRAM video
- 350W Power Supply
- Five USB 2.0 ports (2 rear, 2 front, 1 internal for memory stick)
- ROM Based Setup Utility (RBSU) and PXE support
- Protected by HP Services and a worldwide network of resellers and service providers. One-year Next Business Day, on-site limited global warranty. Certain restrictions and exclusions apply. Pre-Failure Notification on processors, memory, and SCSI hard drives.



# QuickSpecs

## Standard Features

<b>Processor</b> One of the following depending on Model	Intel Celeron processor 2.80 GHz, 533 MHz Front Side Bus
	Intel Pentium-4 processor 3.20 GHz supporting HyperThreading technology, 800MHz Front Side Bus
	Intel Pentium-4 processor 3.40 GHz supporting HyperThreading technology, 800MHz Front Side Bus

<b>Cache Memory</b> One of the following depending on Model	Integrated 256KB Level 2 ECC cache (Celeron models only)
	Integrated 1024KB Level 2 ECC cache (Pentium 4 models only)

<b>Memory Protection</b>	Un-buffered standard ECC capabilities
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<b>Memory</b> One of the following depending on Model	Type	PC3200 DDR SDRAM running at 400MHz
	Standard	256 MB (on Pentium-4 or Celeron models)
	Maximum	4 GB

<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
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Expansion Slots	Slot#	Bus Speed	Hot Plug Y/N	Voltage Connector	Notes
	3	64bit/100MHz PCI-X	No	3.3V	Full Length / Full Height
	1	x4 PCI Express	No	3.3V	Full Length / Full Height
	1	32bit/33MHz PCI	No	5V	Full Length / Full Height

<b>Storage Controller</b> One of the following depending on Model	HP Single Channel Ultra320 SCSI Adapter (SCSI Models)
	Integrated 4 ports Serial ATA
	6 port SATA RAID controller (hot plug SATA Model)

<b>Storage</b>	CD-ROM	48x IDE (ATAPI) CD-ROM Drive
	Hard Drives	One of the following: <ul style="list-style-type: none"> <li>36.4-GB Ultra320 SCSI 15,000 rpm 1" Drive (SCSI models)</li> <li>80-GB SATA 7200 rpm 1" Drive (Hot Plug and Non-Hot plug SATA Models)</li> </ul>



# QuickSpecs

HP ProLiant ML110 G2

## Standard Features

Maximum Internal Storage	Type		
	SCSI	584-GB	(4 x 146-GB)
	SATA (Hot plug)	1-TB	(4 x 250-GB - internal drive bays and removable media bays)
	SATA (Non-hot plug )	320-GB	(4 x 80-GB)
Interfaces	Parallel	1	
	Serial	1	
	Pointing Device (Mouse, PS2)	1	
	Graphics	1	
	Keyboard (PS2)	1	
	USB	5 (2 rear, 2 front panel, 1 internal for memory stick)	
		<b>NOTE:</b> Please see the following URL for additional information regarding USB support: <a href="http://h18004.www1.hp.com/products/servers/platforms/usb-support.html">http://h18004.www1.hp.com/products/servers/platforms/usb-support.html</a>	
	Network RJ-45 (Ethernet)	1	
Graphics	Integrated ATI RAGE XL Video Controller with 8MB SDRAM Video Memory		
Form Factor	Tower (5U)		
Industry Standard Compliance	ACPI V2.0 Compliant PCI 2.3 Compliant		
Manageability	Lights-Out 100 Remote Management Option; For details on the HP Lights-Out 100 Remote Management option see Lights-Out 100 Remote Management Card Offline Version - "floppy-based" method to flash the rom		
Security	Power-on password Setup password Diskette boot control		
Server Power Cords	One Lowline NEMA power cord and one Highline IEC Power cord ships standard		
Power Supply	350 Watts		



# QuickSpecs

## Standard Features

<b>System Fans</b>	1 - non-redundant system fan shipped standard 1 - non-redundant CPU heatsink fan shipped standard
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<b>OS Support</b>	Microsoft Windows Server 2003: Standard and Web Editions Microsoft Windows Small Business Server 2003 : Standard & Premium Edition Novell NetWare 6.5 Novell SBS 6.5 SUSE Linux Enterprise Server 9 Red Hat Enterprise Linux 3 SCO Open Server 5.0.7 (SCSI models only) Tested but not certified nor supported by HP: Windows 2000 Server - Standard Edition Windows XP Professional Red Hat Linux Advanced Server 4.0
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**NOTE:** For an up-to-date listing of the latest ML110 G2 OS support matrix, please see:

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

**NOTE:** For an up-to-date listing of the latest drivers available for the HP server ML110 G2, please see:

<http://h18023.www1.hp.com/support/files/server/us/family/model/5769.html?lang=en&cc=us>

## 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 MSA1000, 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>.



## Standard Features

### Service and Support

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

**NOTE:** Limited warranty includes 1 year parts, 1 year labor, 1-year on-site support

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMware-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

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

**NOTE:** For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

**NOTE:** For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

**NOTE:** Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>



# QuickSpecs

## Models

<b>ML110 G2 C2.8/533</b> <b>256MB, 80GB, Non-Hot</b> <b>Plug SATA</b> 366084-xx1	<b>Processor</b>	(1) Intel Celeron 2.8 GHz (standard)
	<b>Cache Memory</b>	Integrated 533KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 200MHz, with Standard ECC capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	4 ports SATA Controller
	<b>Hard Drive</b>	(1) 80-GB SATA up to 320-GB
	<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive
	<b>Form Factor</b>	Tower (5U)

<b>ML110 G2 P3.2/800,</b> <b>1MB, 36GB, Non-Hot</b> <b>Plug SCSI</b> 366087-xx1	<b>Processor</b>	(1) Intel Pentium 4 3.20 GHz supporting HyperThreading technology (standard)
	<b>Cache Memory</b>	Integrated 1024KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 400MHz, with Standard ECC capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	HP Single Channel Ultra320 SCSI Adapter
	<b>Hard Drive</b>	(1) 36-GB Ultra320 SCSI, 15,000 rpm, 1" Drive
	<b>SCSI Cable</b>	2 drop internal SCSI cable
	<b>Internal Storage</b>	584-GB maximum
<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive	
<b>Form Factor</b>	Tower (5U)	

<b>ML110 G2 P3.4/800</b> <b>1MB, 36GB Non-Hot</b> <b>Plug SCSI</b> 366088-xx1	<b>Processor</b>	(1) Intel Pentium 4 3.40 GHz supporting HyperThreading Technology
	<b>Cache Memory</b>	Integrated 1024KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 400MHz, with Advanced ECC Capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	HP Single Channel Ultra320 SCSI Adapter
	<b>Hard Drive</b>	(1) 36.4-GB Ultra320 SCSI 15,000 rpm, 1" Drive
	<b>SCSI Cable</b>	2 drop internal SCSI cable
	<b>Internal Storage</b>	584-GB Maximum (with optional drives)
<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive	
<b>Form Factor</b>	Tower (5U)	



# QuickSpecs

## Models

<b>ML110 G2 P3.2/800</b> <b>1MB, Hot Plug SATA</b> <b>366089-xx1</b>	<b>Processor</b>	(1) Intel Pentium 4 3.20 GHz supporting HyperThreading technology (standard)
	<b>Cache Memory</b>	Integrated 1024KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 400MHz, with Standard ECC capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	HP 6-Port SATA RAID Controller (RAID levels 0, 1, 10, 5)
	<b>Hard Drive</b>	None ship standard
	<b>SATA Cable</b>	(1) 4 in 1" SATA cable
	<b>Internal Storage</b>	1-TB Maximum
	<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive
	<b>Form Factor</b>	Tower (5U)

<b>ML110 G2 P3.4/800</b> <b>1MB Hot Plug SATA</b> <b>366090-xx1</b>	<b>Processor</b>	(1) Intel Pentium 4 3.40 GHz supporting HyperThreading technology (standard)
	<b>Cache Memory</b>	Integrated 1024KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 400MHz, with Standard ECC capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	HP 6-port SATA RAID Controller (RAID levels 0, 1, 10, 5)
	<b>Hard Drive</b>	None ship standard
	<b>Internal Storage</b>	1-TB maximum
	<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive
	<b>Form Factor</b>	Tower (5U)

<b>ML110 G2 P3.2/800</b> <b>1MB, 80GB, Non-Hot Plug SATA</b> <b>382050-xx1</b>	<b>Processor</b>	(1) Intel Pentium 4 3.20 GHz supporting HyperThreading technology (standard)
	<b>Cache Memory</b>	Integrated 1024KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 400MHz, with Advanced ECC capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (Embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	4 ports SATA Controller (embedded)
	<b>Hard Drive</b>	(1) 80-GB Serial ATA
	<b>Internal Storage</b>	320-GB maximum
	<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive
	<b>Form Factor</b>	Tower (5U)





# QuickSpecs

HP ProLiant ML110 G2

## Models

<b>ML110 G2 P3.4/800</b> <b>1MB, 80GB, Non-Hot</b> <b>Plug SATA</b> <b>382051-xx1</b>	<b>Processor</b>	(1) Intel Pentium 4 3.40 GHz supporting HyperThreading technology (standard)
	<b>Cache Memory</b>	Integrated 1024KB Level 2 cache
	<b>Memory</b>	256 MB (Standard) to 4 GB (Maximum) PC3200 DDR SDRAM DIMM Memory running at 400MHz, with Advanced ECC capabilities
	<b>Network Controller</b>	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
	<b>Storage Controller</b>	4 ports SATA Controller (embedded)
	<b>Hard Drive</b>	(1) 80 GB Serial ATA
	<b>Internal Storage</b>	320-GB maximum
	<b>Optical Drive</b>	48x IDE (ATAPI) CD-ROM Drive
<b>Form Factor</b>	Tower (5U)	

<b>Country Code Key</b>	XX=00	NA
	XX=01	Australia
	XX=03	UK
	XX=04	Germany
	XX=05	France
	XX=20	Brazil
	XX=37	AP
	XX=42	Euro
XX=AA	PRC	



## Configuration Information-Factory Integrated Models (North America only)

**NOTE:** For Configure to Order requirements within EMEA region, please consult local Sales Contact.

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

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

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

## Step 1: Base Configuration

Models	HP ProLiant ML110 G2 Tower Chassis NHP SCSI (North America)	380184-405
	HP ProLiant ML110 G2 Tower Chassis NHP SATA (North America)	380185-405
	HP ProLiant ML110 G2 Tower Chassis HP SATA (North America)	380186-405
	<b>Factory Integrated Models ship with:</b>	
	Intel 82541PI PCI Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)	
	Serial ATA Host controller, Data transfer rates up to 1.5Gb/s	
	Keyboard and Mouse	
	350 Watts, PFC (Power Factor Correcting)	
	Tower 5U Form Factor	

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

Processors	Celeron Processor 2.80 GHz/400MHz Front Side Bus, Factory Integration only	383872-L21
	Pentium Processor 3.20 GHz/ 800MHz Front Side Bus, Factory Integration only	383871-L21
	Pentium Processor 3.40 GHz/ 800MHz Front Side Bus, Factory Integration only	383869-L21
	Pentium Processor 3.0 GHz/ 800MHz Front Side Bus, Factory Integration only	390813-L21

Base Memory	256 MB of Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 256 MB)	354557-B21
	512 MB of Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 512 MB)	354560-B21
	1024 MB of Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 X 1024 MB)	354563-B21

Base Hard Drives	72-GB 10,000 rpm, U320 Non-Hot Plug Hard Drive (1")	332751-B21
	146-GB 10,000 rpm, U320 Non-Hot Plug Hard Drive (1")	356990-B21
	<b>NOTE:</b> Must also select the U320 SCSI HBA Base (358700-B21) if choosing SCSI drive.	
	80-GB NHP SATA 1.5Gb 7,200 rpm Hard Drive (1")	383410-B21
	80-GB SATA 1.5Gb 7,200 rpm Hard Drive (3.5")	349237-B21
	160-GB SATA 1.5Gb 7,200 rpm Hard Drive (3.5")	349238-B21
	250-GB SATA 1.5Gb 7,200 rpm Hard Drive (3.5")	349239-B21
	<b>NOTE:</b> Must also select one HP SATA Hard Drive Cable (P/N 385856-B21) for each SATA hard drives selected	
	HP SATA ML110G2 Cable FIO	385856-B21
	<b>NOTE:</b> Must also select one SATA Cable for each SATA Hard drive selected	



## Configuration Information-Factory Integrated Models (North America only)

Optical Drives	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	DVD-ROM Drive Option Kit	217053-B21
	HP ProLiant 48X CD w/SCREWS	337863-B21

### Step 3: Choose Additional Factory Integratable Options

Controller	HP ML110 G2 U320 SCSI FIO HBA ALL <b>NOTE:</b> Must select if SCSI hard drives are chosen in step 2.	358700-B21
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### Step 4: Choose Additional Options for Factory Integration

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



# QuickSpecs

## Options

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

Memory	1024 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 1024 MB)	354563-B21
	512 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 512 MB)	354560-B21
	256 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 256 MB)	354557-B21

Optical Drives	CD-RW/DVD-ROM Combo Drive Option Kit	331346-B21
	48X CD-ROM Option, Carbon	337863-B21
	1.44 MB Diskette Drive via USB	DC361B

Hard Drives	<b>Ultra320 SCSI - Non-Hot Plug</b>	
	36 .4-GB 15,000 rpm, U320 Non-Hot Plug Hard Drive (1")	357012-B21
	72 .8-GB 10,000 rpm, U320 Non-Hot Plug Hard Drive (1")	332751-B21
	146.8-GB 10,000 rpm, U320 Non-Hot Plug Hard Drive (1")	356990-B21
	<b>Serial - ATA (SATA)- Non-Hot Plug</b>	
	80-GB ATA/100 7,200 rpm Non-Hot Plug Drive (1")	383410-B21
	<b>Serial-ATA (SATA) Hard Drive (Hot Plug SATA Models Only)</b>	
	80-GB SATA 1.5Gb 7,200 RPM Hard Drive (3.5")	349237-B21
	160-GB SATA 1.5Gb 7,200 RPM Hard Drive (3.5")	349238-B21
	250-GB SATA 1.5Gb 7,200 RPM Hard Drive (1")	349239-B21
	HP 2 Port SATA RAID Cable All	379093-B21

**NOTE:** Must select one SATA RAID Cable when choosing 1 or 2 SATA Hard Drives.  
Must select two SATA RAID Cables when choosing 3 or more SATA Hard Drives.

HP External 160GB HDD	HP External Backup Solution by Seagate (North America)	372914-001
	HP External Backup Solution by Seagate (EU)	372914-011

Internal Cable Options	HP Internal SAS/SATA Target Fan Cable	389653-B21
	HP Internal 2-Port SATA RAID Cable Kit	379093-B21

**NOTE:** The SAS cable supports four drives without an expander. Two cables are required when more than four drives are installed. SAS Internal Cables are typically supplied with the server. Refer to server documentation for details.



## Options

Storage Controllers - SCSI Drives	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA G2	374654-B21
	<b>NOTE:</b> PCI-X Interface	
	HP PL100 SCSI RAID Controller	355671-B21
	<b>NOTE:</b> PCI-X Interface	
	HP 6-Port SATA RAID Controller	372953-B21
	<b>NOTE:</b> PCI-X Interface	
	HP 2-Port SATA RAID Cable	379093-B21
	64-Bit/133-MHz Single Channel Ultra320 SCSI HBA	365289-B21
	<b>NOTE:</b> SCSI Storage Controllers are qualified for SCSI drives only and do not support the SATA Drives.	
	SATA Storage Controllers are qualified for SATA drives only and do not support the SCSI Drives.	

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Communications	HP NC320T PCI Express Gigabit Server Adapter	367047-B21
	HP NC1020 PCI 1000T Gigabit Server Adapter	353377-B21
	HP NC150T PCI 4-port 1000T Gigabit Combo Switch Adapter	367132-B21
	Modem adapter option kit localizations -	DC131C-xx

**NOTE:** RJ11 Modem adapter kit country/network-specific telecoms adapter for use with DC131B, DC132B or DC132C modems

## Modem adapter option kit Country Code Key

#ACP= Austria	#ABZ= Italy
#ABW= Belgium (Dutch/Flemish)	#ABH= Netherlands
#AKN= Bosnia, Herzegovina, Croatia, Slovenia, Yugoslavia (Slovenian)	#UUW= Nordic Region
#AKB= Czech Republic (Czech) & Slovakia	#ACB= Russia
#ABF= France	#ACQ= South Africa
#ABD= Germany	#ACD= Switzerland
#AB7= Greece	#AB8= Turkey
#AKC= Hungary	#ABU= UK
#ABT= Israel	#ABG= Australia, New Zealand
	#ACJ= India

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## Options

## Tape Backup Drives

**NOTE:** For complete listing of tape drive offerings see:

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

For recommended tape drive offerings for this ProLiant server see the following:

**NOTE:** For complete listing of tape drive offerings see:

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

For recommended tape drive offerings for this ProLiant server see the following:

**USB Tape Drives**

HP StorageWorks DAT 40 USB Internal Tape Drive (Carbonite) DW022A

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

**DAT Tape Drives - Internal**

HP StorageWorks DAT 24 SCSI Internal Tape Drive (Flint) C1555D

HP StorageWorks DAT 40 SCSI Internal Tape Drive (Carbon) C5686B

HP StorageWorks DAT 72 SCSI Internal Tape Drive (Carbon) Q1522B

**Ultrium Tape Drives - Internal/External**

HP StorageWorks Ultrium 232 Internal Tape Drive (Carbonite) DW064A

HP StorageWorks Ultrium 232 External Tape Drive (Carbonite) DW065A

**NOTE:** Installation of DAT40 or DAT72 Internal DAT Drives in a ML110 G2 SATA model requires SCSI controller kit (PN: 374654-B21).

**NOTE:** Installation of DAT40 or DAT72 DAT Drives in a ML110 G2 SATA model requires SCSI controller kit (PN: 374654-B21).

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<b>Rack Enabling Kit</b>	ProLiant Rack Enabling Kit	238547-B22
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<b>Lights Out Management Card</b>	Lights-Out Management Card Kit	383064-B21
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<b>Other</b>	Internal SCSI Cable Option Kit, 4 drops	166389-B21
	<b>NOTE:</b> To be used when adding additional hard disk drives or a tape back-up drive.	
	Internal SCSI Cable Option Kit, 2 drops	273463-B21
	<b>NOTE:</b> To be used when adding additional hard drives or a tape back-up drive.	



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## Service and Support, HP Care Pack, and Warranty Information

Service and Support Offerings (HP Care Pack Services)	<b>Hardware Services 4-Hour On-site Service</b>	
	13-Hour x 5-Day Coverage, 3 Years, Electronic	U4434E
	24-Hour x 7-Day Coverage, 3 Years, Electronic	U4435E
	<b>Hardware Services Next Business Day On-Site Service</b>	
	9-Hour x 5-Day Coverage, 3 Years, Electronic	U4433E
	Hardware Installation, Electronic	U4444E
	<b>NOTE:</b> For more information, customer/resellers can contact <a href="http://www.hp.com/services/carepack">http://www.hp.com/services/carepack</a> .	



# QuickSpecs

## Memory

### HP ProLiant ML110 G2 Celeron and Pentium 4 Models

#### Standard Memory

256 MB of PC3200 DDR SDRAM running at 400MHz, with Advanced ECC capabilities Memory installed (1 x 256 MB SDRAM DIMM).

#### Standard Memory Plus Optional Memory

Up to 3328 MB memory is available with the optional installation of PC3200 Registered un-buffered ECC DDR SDRAM DIMM Memory kits.

#### Standard Memory Replaced with Optional Memory

Up to 4096 MB of memory is available with the removal of the standard 256 MB of memory and the optional installation of PC3200 Registered un-buffered ECC DDR SDRAM DIMM Memory kits.

**NOTE:** Charts do not represent all possible memory configurations.

Memory		Slot			
		4	3	2	1
Standard	256 MB	Empty	Empty	Empty	256 MB
Optional	3328 MB	1024 MB	1024 MB	1024 MB	256 MB
Maximum	4096 MB	1024 MB	1024 MB	1024 MB	1024 MB

Following are memory options available from HP:

- 256 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 256 MB) 354557 -B21
- 512 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 512 MB) 354560 -B21
- 1024 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 1024 MB) 354563 -B21

### HP server ML110 G2 Pentium 4 SBS Models

#### Standard Memory

512 MB of PC3200 DDR SDRAM running at 400MHz, with Advanced ECC capabilities Memory installed (1 x 512 MB SDRAM DIMM).

#### Standard Memory Plus Optional Memory

Up to 3584 MB memory is available with the optional installation of PC3200 un-buffered ECC DDR SDRAM DIMM Memory kits.

#### Standard Memory Replaced with Optional Memory

Up to 4096 MB of memory is available with the removal of the standard 512 MB of memory and the optional installation of PC3200 un-buffered ECC DDR SDRAM DIMM Memory kits.

**NOTE:** Charts do not represent all possible memory configurations.

Memory		Slot			
		4	3	2	1
Standard	512 MB	Empty	Empty	Empty	512 MB
Optional	3584 MB	1024 MB	1024 MB	1024 MB	512 MB
Maximum	4096 MB	1024 MB	1024 MB	1024 MB	1024 MB





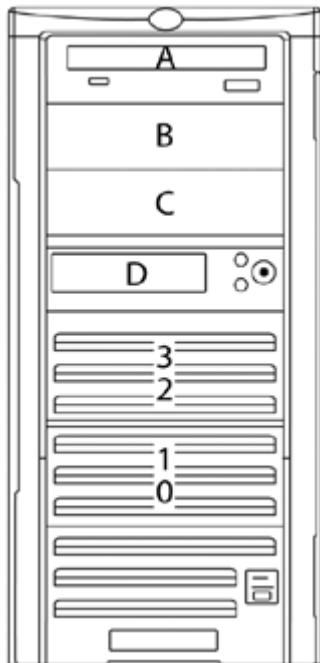
## Memory

Following are memory options available from HP:

- 256 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 256 MB) 354557-B21
- 512 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 512 MB) 354560-B21
- 1024 MB Advanced ECC PC3200 DDR SDRAM DIMM Memory Kit (1 x 1024 MB) 354563-B21



## Storage



A	48x IDE (ATAPI) CD-ROM
B, C, D	Removable Media Bays (1.6" each)
D	1.44 MB Diskette Drive (Optional)
0, 1, 2, 3	Four 1" Non-Hot Plug Drive Bays, or Four Hot Plug Drive Bays (SATA model only)

## Drive Support

	Quantity Supported	Position Supported	Controller
<b>Removable Media</b>			
1.44-MB Diskette Drive	1	D	Integrated
DVD-ROM Drive	Up to 2	A, B or C	Integrated IDE (ATAPI)

## Hard Drives (SCSI Models only)

*Ultra 320 SCSI - Non-Hot Plug*

	Quantity Supported	Position Supported	Controller
<u>1-inch</u> 36.4-GB 72.8-GB 146.8-GB	Up to 4	0, 1, 2 or 3	Hot Plug Single Channel Ultra320 SCSI Adapter (SCSI Models)

## Storage

## Hard Drives (SATA Models only)

## SATA 1.5Gb - Non-Hot Plug

	Quantity Supported	Position Supported	Controller
<u>1-inch</u> 80.0-GB	Up to 4	0, 1, 2 or 3	

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## Hard Drives (SATA Models only)

## SATA - Hot Plug

	Quantity Supported	Position Supported	Controller
<u>1-inch</u> 80.0-GB 160.0-GB 250.0-GB	Up to 4	0, 1, 2 or 3	4 Port SATA RAID Controller (SATA Model)

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## Maximum Storage Capacity - SCSI Models

Internal	584-GB (4 x 146-GB non-hot-plug hard drives)
Total	584-GB

## Maximum Storage Capacity - Non-Hot Plug SATA Models

Internal	320-GB (4 x 80-GB non-hot-plug hard drives)
Total	320-GB

## Maximum Storage Capacity - Hot Plug SATA Models

Internal	1-TB (4 x 250-GB hot-plug hard drives)
Total	1-TB

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## Tape Drives

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

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

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

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

	Quantity Supported	Position Supported	Controller
HP DAT24	Up to 1	C	HP Single Channel Ultra320 SCSI HBA
HP DAT40	Up to 1	C	HP Single Channel Ultra320 SCSI HBA
HP DAT72	Up to 1	C	HP Single Channel Ultra320 SCSI HBA



# QuickSpecs

## Power Specifications

Part Number	377580-001
Spare Kit	382097-001
Operational Input Voltage Range (V rms)	90 to 135 and 180 to 5 V auto ranging
Frequency Range (Nominal) (Hz)	47 to 63 Hz

Nominal Input Voltage (Vrms)	100	115	208	220	230	240
Max Rated Output Wattage Rating	N/A	350	N/A	N/A	350	N/A
Nominal Input Current (A rms)	N/A	8	N/A	N/A	4	N/A
Max Rated Input Wattage Rating (Watts)	N/A	N/A	N/A	N/A	N/A	N/A
Max. Rated VA (Volt-Amp)	N/A	N/A	N/A	N/A	N/A	N/A
Efficiency (%)	N/A	>65%	N/A	N/A	>65%	N/A
Power Factor	N/A	N/A	N/A	N/A	N/A	N/A
Leakage Current (mA)	0.25mA (at 60HZ)	N/A	N/A	N/A	N/A	N/A
Maximum Inrush Current (A peak)	N/A	No component was damaged and input fuse shall not blow	N/A	N/A	No component was damaged and input fuse shall not blow	N/A
Maximum Inrush Current duration (mS)	N/A	N/A	N/A	N/A	N/A	N/A

## System Specifications

	Power **
HP ProLiant ML110 G2 Fully Configured	(see **)
Fully Loaded System output Wattage (W)	350W
Fully Loaded System Input Current (A rms)	4.87A @ 115V, 2.43A @ 230V
Fully Loaded System Thermal (BTU- Hr)	1907BTU
Fully Loaded System VA (Volt-Amp)	560
System Leakage with all power supplies loaded (mA)	0.75mA@240V 0.45mA@120V
System Inrush Current with all power supplies loaded (A)	80A
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) CD-ROM, (1) DVD-ROM, (4) PCI cards, and (1) power supply.



# QuickSpecs

## Power Specifications

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



# QuickSpecs

HP ProLiant ML110 G2

## Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b> (with feet)	16.7 x 7.9 x 19.7 in (42.4 x 20.0 x 50.0 cm)		
	<b>Weight</b> (approximate)	32.61 lb (14.8 kg)		
	<b>Input Requirements</b> (per power supply)	Range Input Voltage	90 to 135 VAC/180 to 265 VAC	
		Normal Line Voltage	115 or 230 VAC	
	<b>Line Frequency</b>	50 to 60 Hz		
	<b>Rated Input Current</b>	load 8A at 115VAC, 4A at 230VAC		
	<b>BTU Rating</b>	1907 BTU		
	<b>SCSI Connectors</b> (SCSI Models only)	One internal LVD/SE connector for U160 devices, plus two internal SE connectors for legacy devices.		
	<b>Power Supply Output Power</b> (per power supply)	Rated Steady-State Power	320W	
		Maximum Peak Power	350W	
	<b>Temperature Range</b>	Operating	50° to 95° F (10° to 35° C)	
		Shipping	-4° to 140° F (-20° to 60° C)	
	<b>Relative Humidity</b> (non-condensing)	Operating	20% to 80%	
		Non-operating	20% to 80%	
<b>Acoustic Noise</b>	Idle (Fixed Disk Drives Spinning)	L WAd (BELS)	5.5	
		L pAm (dBA)	36	
	Operating (Random Seeks to Fixed Disks)	L WAd (BELS)	6.0	
		L pAm (dBA)	38	

<b>Non-Hot Plug Ultra320 SCSI Hard Drives</b>	<b>Capacity</b>	36,419.2 MB		
	<b>Height</b>	1.0 in (2.5 cm)		
	<b>Width</b>	4.0 in (10.16 cm)		
	<b>Interface</b>	Ultra320 SCSI		
	<b>Transfer rate</b> <b>synchronous</b> (maximum)	320 MB/s		
	<b>Seek time</b> (typical reads, including settling)	Single track	0.7 ms	
		Average	5.4 ms	
		Full-stroke	11 ms	
	<b>Physical Configuration</b>	Rotational Speed	10,000 rpm	
		Bytes/Sector	512	
		Logical Blocks	71,132,000	
<b>Operating Temperature</b>	41° to 140° F (5° to 60° C)			



# QuickSpecs

## Technical Specifications

Non-Hot Plug SATA Hard Drives 80 GB 7.2K  
383410-B21

<b>Capacity</b>	80,054 MB	
<b>Height</b>	1.0 in. (2.5 cm)	
<b>Width</b>	4.0 in. (10.16 cm)	
<b>Interface</b>	SATA 150MB	
<b>Transfer rate</b> synchronous (maximum)	150 MB/s	
<b>Seek time</b> (typical reads, including settling)	Single track	0.8 ms
	Average	8.5 ms
	Full-stroke	17.8 ms
	Rotational speed	7,200 rpm
<b>Physical Configuration</b>	Bytes/Sector	512
	Logical Blocks	156,355,584
<b>Operating Temperature</b>	41° to 131° F (5° to 55° C)	

Hot Plug SATA Hard Drives 80 GB 7.2K  
349237-B21

160 GB 7.2K  
349238-B21

250 GB 7.2K  
349239-B21

<b>Capacity</b>	40,027 MB	
<b>Height</b>	1.0 in. (2.5 cm)	
<b>Width</b>	4.0 in (10.16 cm)	
<b>Interface</b>	SATA 150MB	
<b>Transfer rate</b> synchronous (maximum)	1.50Gb/s	
<b>Seek time</b> (typical reads, including settling)	Single track	0.9 ms
	Average	9.0 ms
	Full-stroke	17.0 ms
	Rotational speed	7,200 rpm
<b>Physical Configuration</b>	Bytes/Sector	512
	Logical Blocks	156,301,4\88
<b>Operating Temperature</b>	41° to 131° F (5° to 55° C)	



# QuickSpecs

HP ProLiant ML110 G2

## Technical Specifications

48X Max IDE (ATAPI) CD-ROM Drive	Applicable Disk	CD-ROM, CD-XA, CD-DA (Mode 1, Mode 2, Form 1 and 2) Photo CD (Single and Multi-session) Mixed Mode (Audio and Data combined) CD-R
	Capacity	540 MB (Mode 1, 12 cm) 650 MB (Mode 2, 12 cm)
Block Size	Mode 1	2,048 bytes, 1024 bytes
	Mode 2	2,340 bytes, 2,336 bytes, 1024 bytes
	CD-DA	2,352 bytes
	CD-XA	2,328 bytes
Interface	IDE (ATAPI)	
Access Times (typical)	Random	< 100 ms
	Full-Stroke	< 150 ms
Data Transfer Rate	Sustained	3000 to 7200 KB/s (20X to 48X)
	Burst	150 KBps to 7,200 KBps
	Bus Rate	16.7 MBps
Cache Buffer	128 KB	
Start-up Time (typical)	< 7seconds	
Stop Time	< 4seconds	
Laser Parameters	Type	Semiconductor Laser GaAlAs
	Wave Length	780 ± 25 nm
Operating Conditions	Temperature	41° to 122° F (5° to 50° C)
	Humidity	10% to 90%
Dimensions	(HxWxD, maximum)	1.63 x 5.75 x 7.87 in (41.3 x 146 x 200 cm)
	Weight	2.64 lb (1.2 kg)

HP Single Channel Ultra320 SCSI Adapter (SCSI Models only)	Drives Supported	Up to 4 SCSI devices Wide
	Data Transfer Method	64-bit/33-MHz PCI bus-master
	SCSI Channel Transfer Rate	320 MB/s per channel
	SCSI Protocols	Ultra 320, Ultra 3, Ultra 2
		Fast SCSI-2
	Maximum Capacity	587GB (4x146.8GB, NHP U320 SCSI HDD)
	Electrical Protocol	Low Voltage Differential (LVD)
	SCSI Termination	Active Termination
	External SCSI Connectors	None





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*Technical Specifications*

<b>6 port SATA RAID controller</b> (SATA Model Only)	<b>SATA Protocol</b>	SATA 1.5Gb/s
	<b>SATA Ports</b>	6 internal (4 drives supported maximum for ML110G2)
	<b>Port transfer rate</b>	1.5 Gb/s total
	<b>Drives Supported</b>	Up to 4 SATA HDD
	<b>Data Transfer Method</b>	32-bit/66-MHz PCI bus-master
	<b>Storage Capacity</b>	up to 1TB (4x 250GB hot plug 1" SATA HDD)
	<b>PCI</b>	3.3 volt CPI slot compatibility only (PCI-X interface)
	<b>Cache Memory</b>	64MB of SDRAM Memory for RAID and read cache
	<b>RAID Levels Supported</b>	RAID 5 (Distributed Data Guarding) RAID 1+0 (Striping & Mirroring) RAID 1 (Mirroring) RAID 0 (Striping)
	<b>Maximum Capacity</b>	up to 1TB (4x 250GB hot plug 1" SATA HDD)
	<b>Logical RAID Volumes Supported</b>	4
	<b>Operating Systems</b>	Microsoft Windows® 2000 Server; Microsoft Windows® Server 2003; Linux: Red Hat 9.0, RHEL 3.

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<b>Intel 82541 PI NIC</b> (embedded) 10/100/1000 WOL (Wake on LAN)	<b>Network Interface</b>	IEEE 802.3x-compliant flow-control support with software-controllable thresholds IEEE 802.3ab Auto-Negotiation	
	<b>Data Transfer Method</b>	32-bit PCI	
	<b>Network Transfer Rate</b>	10/100/1000 Mbps, Half- and full-duplex	Auto-negotiated speeds of 10/100/1000 Mbps in both half and full duplex
	<b>Connector</b>	RJ-45 connector	
	<b>Cable Support</b>	Category 5 or higher UTP wiring	

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