

Power Mac G5 - Technical Specifications

Configurations			
Order no.	M9020LL/A	M9031LL/A	M9032LL/A
G5 Processor	1.6GHz PowerPC G5	1.8GHz PowerPC G5	Dual 2GHz PowerPC G5
L2 Cache	512K	512K	512K per processor
Frontside bus	800MHz	900MHz	1GHz per processor
DDR SDRAM main memory	256MB PC2700 (333MHz) 4GB maximum	512MB PC3200 (400MHz) 8GB maximum	512MB PC3200 (400MHz) 8GB maximum
8X AGP Pro graphics	NVIDIA GeForce FX 5200 Ultra with 64MB DDR SDRAM	NVIDIA GeForce FX 5200 Ultra with 64MB DDR SDRAM	ATI RADEON 9600 Pro with 64MB DDR SDRAM
Hard drive(5)	80GB Serial ATA; 7200 rpm	160GB Serial ATA; 7200 rpm	160GB Serial ATA; 7200 rpm
Optical drive	SuperDrive (DVD-R/CD-RW)	SuperDrive (DVD-R/CD-RW)	SuperDrive (DVD-R/CD-RW)
PCI slots	Three open full-length 33MHz, 64-bit PCI slots	Three open full-length PCI-X slots: one 133MHz, 64-bit slot and two 100MHz, 64-bit slots	Three open full-length PCI-X slots: one 133MHz, 64-bit slot and two 100MHz, 64-bit slots
High performance I/O	One FireWire 800 port, two FireWire 400 ports (one on front); three USB 2.0 ports (one on front), two USB 1.1 ports (on keyboard); AGP 8X Pro slot with graphics card installed, including ADC connector and DVI connector		
Bays	Two internal hard drive bays (1 occupied); one optical drive bay		
Networking	Built-in 10/100/1000BASE-T Ethernet and 56K V.92 modem(13)		
Wireless	AirPort Extreme ready (based on 802.11g specification; IEEE 802.11b Wi-Fi certified)(6); Bluetooth option		
Audio	Optical digital audio in, optical digital audio out, analog audio in, analog audio out, front headphone minijack and speaker		
System software	Mac OS X v10.2 "Jaguar"		
Software	iLife (including iTunes, iPhoto, iMovie and iDVD), QuickBooks for Mac New User Edition, FAXstf, Art Directors Toolkit, Microsoft Office v.X Test Drive, FileMaker Pro Trial, OmniGraffle, OmniOutliner, GraphicConverter, QuickTime, iChat, Safari, Sherlock, Address Book, iCal, iSync, DVD Player, Mail, EarthLink, Acrobat Reader, Classic environment and Apple Developer Tools		
Hardware accessories	Apple Keyboard, Apple Mouse, USB keyboard extension cable, DVI to VGA adapter, modem cable,		

	AirPort antenna
Limited warranty and service	Your Power Mac G5 comes with 90 days of free telephone support and a one-year limited warranty. Purchase the AppleCare Protection Plan to extend your service and support to three full years. Only the AppleCare Protection Plan provides you with direct telephone support from Apple technical experts and the assurance that repairs will be handled by Apple-certified technicians using genuine Apple parts. For more information, visit Apple support or call 800-823-2775.
Internet access	All models also include 30 days of free Internet service through EarthLink . Internet access requires a compatible Internet service provider; fees may apply.

Build-to-Order Options

Order a custom-configured computer from the online [Apple Store](#) or an authorized Apple reseller.

Memory	(PC2700 or PC3200 DDR SDRAM; installed in pairs): 256MB, 512MB, 1GB, 2GB, 4GB, 8GB (4)
Hard drives (5)	80GB Serial ATA, 160GB Serial ATA, 250GB Serial ATA
Optical drives	SuperDrive (DVD-R/CD-RW), Combo drive (DVD-ROM/CD-RW)
Graphics	NVIDIA GeForce FX 5200 Ultra with 64MB of DDR SDRAM, ATI Radeon 9600 Pro with 64MB of DDR SDRAM, ATI Radeon 9800 Pro with 128MB of DDR SDRAM
Audio	Apple iPod , Logitech Z-680 5.1 speakers, Monster 1m Toslink Digital Fiber Optic Cable, Monster 2m Toslink Digital Fiber Optic Cable
External storage	Xserve RAID with Apple Fibre Channel PCI Card
Wireless	AirPort Extreme Card M8881LL/A AirPort Extreme Base Station M8930LL/A AirPort Extreme Base Station (with modem and antenna port) M8799LL/A Internal Bluetooth module with antenna
Displays	Apple Studio Display (17-inch flat panel) M7649ZM/B Apple Cinema Display (20-inch flat panel) M8893ZM/A Apple Cinema HD Display (23-inch flat panel) M8537ZM/A Apple DVI to ADC Display Adapter M8661LL/A Apple DVI to ADC Video Adapter M9267G/A
Services	AppleCare Protection Plan M8850LL/A .Mac Subscription M8778LL/A

Technical Specifications

Processing

- 1.6GHz, 1.8GHz, or dual 2GHz PowerPC G5 microprocessors
- PowerPC processor architecture with 64-bit data paths and registers
- Native support for 32-bit application code
- 512K on-chip L2 cache running at processor speed
- Parallel data structure supporting up to 215 simultaneous in-flight instructions
- Simultaneous issue of up to 10 out-of-order operations
- Dual-pipeline Velocity Engine for 128-bit single-instruction, multiple-data (SIMD) processing
- Two independent double-precision floating-point units
- Advanced three-stage branch-prediction logic
- 800MHz, 900MHz, or 1GHz 64-bit DDR frontside bus supporting up to 8-GBps data throughput; one on each processor on dual processor systems
- Point-to-point system controller

Memory

Graphics and displays

- AGP 8X Pro graphics slot supporting up to 2-GBps data throughput, with one of the following graphics cards installed:
 - NVIDIA GeForce FX 5200 Ultra with 64MB of DDR SDRAM
 - ATI Radeon 9600 Pro with 64MB of DDR SDRAM
 - ATI Radeon 9800 Pro with 128MB of DDR SDRAM (build-to-order option)
- Support for digital resolutions up to 1920 by 1200 pixels
- Support for analog resolutions up to 1600 by 1200 pixels
- ADC and DVI connectors; DVI to VGA adapter included
- Dual display support for extended desktop and video mirroring modes
- Support for up to two Apple flat panel displays(8)

Storage

- Two Serial ATA controllers supporting up to 150-MBps data throughput per hard

Communications

- 10/100/1000BASE-T Ethernet connector (RJ-45)
- Built-in 56K V.92 modem (RJ-11) (13)
- Expansion slot for optional 54-Mbps AirPort Extreme Card (based on IEEE 802.11g specification; 802.11b Wi-Fi certified) (6)
- External AirPort Extreme antenna
- Optional Bluetooth 1.1 module and antenna

Peripherals and audio

- One FireWire 800 port and two FireWire 400 ports (one on front panel, 15W total power)
- Three USB 2.0 ports (on one front panel), two USB 1.1 ports on keyboard
- Front headphone minijack and speaker
- Optical digital audio in and out Toslink connectors
- Stereo audio in and out minijacks

Electrical and environmental requirements

- Meets ENERGY STAR requirements
- Line voltage: 100-125V AC or 200-240V AC
- Frequency: 50Hz to 60Hz, single

- 128-bit data paths for up to 6.4-Gbps memory throughput
 - 1.6GHz model
 - 256MB of PC2700 (333MHz) DDR SDRAM
 - Four DIMM slots supporting up to 4GB of main memory
 - 1.8GHz systems and 2Ghz systems
 - 512MB of PC3200 (400MHz) DDR SDRAM
 - Eight DIMM slots supporting up to 8GB of main memory
 - Support for the following DIMMs (in pairs):
 - 128MB DIMMs (64-bit-wide, 128- or 256-Mbit)
 - 256MB DIMMs (64-bit-wide, 128- or 256-Mbit)
 - 512MB DIMMs (64-bit-wide, 256-Mbit)
 - 1GB DIMMs (64-bit-wide, 256-Mbit)
 - drive
 - Two 3.5-inch hard drive expansion bays with drive guides for a second drive
 - One 80GB or 160GB 7200-rpm Serial ATA drive installed in standard configurations(5)
 - Support for up to two internal Serial ATA drives; 500GB maximum system capacity(5)
 - 8MB memory buffers on all hard drives
 - Optical drive bay with SuperDrive (DVD-R/CD-RW) installed; writes DVD-R discs at up to 4x speed, reads DVDs at up to 8x speed, writes CD-R discs at up to 16x speed, writes CD-RW discs at up to 10x speed, reads CDs at up to 32x speed
 - phase
 - Maximum current: 6.5A (low-voltage range) or 7.5A (high-voltage range)
 - Operating temperature: 50° to 95° F (10° to 35° C)
 - Storage temperature: -40° to 116° F (-40° to 47° C)
 - Relative humidity: 5% to 95% noncondensing
 - Maximum altitude: 10,000 feet
- Size and weight**
- Height: 20.1 inches (51.1 cm)
 - Width: 8.1 inches (20.6 cm)
 - Depth: 18.7 inches (47.5 cm)
 - Weight: 39.2 pounds (17.8 kg) (14)
- PCI expansion**
- One of the following configurations:
 - Three open full-length 64-bit, 33MHz PCI slots, or
 - One open full-length 64-bit, 133MHz PCI-X slot and two open full-length 64-bit 100MHz PCI-X slots

1. Tests performed by Apple in June 2003 using preproduction Power Mac G5 units. The Power Mac systems ran a PowerPC G5 — optimized version of Photoshop 7.0.1 including optimized AltiVecCore, ACE, and BIB Carbon Libraries; the Dell Dimension ran Photoshop 7.0.1.
2. “World’s fastest” based on SPEC CPU2000 benchmark results and leading professional application performance tests against 3GHz Pentium 4 — based Dell Dimension 8300 and dual 3.06GHz Xeon-based Dell Precision Workstation 650.

SPEC CPU2000 benchmarks run with GCC 3.3 compiler and independently tested; professional applications tested by Apple, June 2003.

3. Based on SPEC CPU2000 benchmark results against 3GHz Pentium 4 — based Dell Dimension 8300 and dual 3.06GHz Xeon-based Dell Precision Workstation 650, run with GCC 3.3 compiler and independently tested, June 2003.
 4. Selected models.
 5. 1GB = 1 billion bytes; actual formatted capacity less.
 6. Achieving data rates of 54 Mbps requires that all users have an AirPort Extreme Card and connect to an AirPort Extreme Base Station. If any user of Wi-Fi certified 802.11b products joins the network, that user will get up to 11 Mbps and AirPort Extreme network users will get less than 54 Mbps. Actual speed will vary based on range, connection rate, site conditions, size of network, and other factors.
 7. Check with manufacturer for compatibility.
 8. Second Apple flat-panel display requires Apple DVI to ADC Adapter, sold separately.
 9. Actual rates will vary.
 10. Preliminary specifications based on preproduction Power Mac G5 units.
 11. Based on SPEC CPU2000 benchmark results against 3GHz Pentium 4 — based Dell Dimension 8300 and dual 3.06GHz Xeon-based Dell Precision Workstation 650m, performed by VeriTest, June 2003.
 12. Tests performed by Apple in June 2003 using preproduction Power Mac G5 units with application software optimized for the PowerPC G5.
 13. Compatible ISP and telephone services required. Your ISP may not support all V.92 features. Modem will function according to V.90 standards if V.92 services are not available. Actual modem speeds lower.
 14. Weight varies by configuration and manufacturing process.
-
- Internet access requires a compatible Internet service provider; fees may apply.
 - Product contains electronic documentation.
 - Backup copy of software is included.