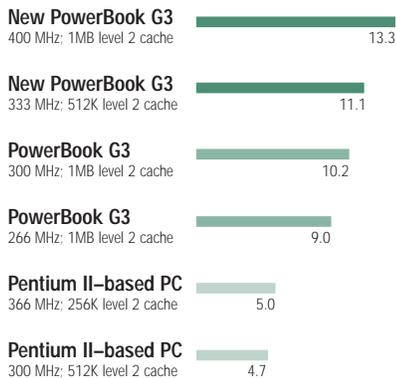




Macintosh PowerBook G3 Series FAQ

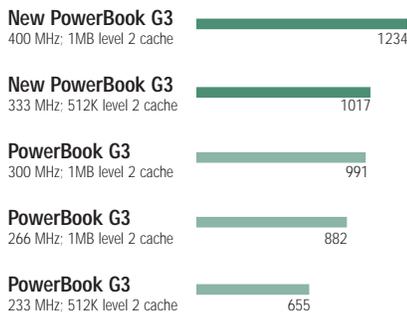
Performance Comparisons

BYTEmark Comparison



Based on BYTEmark integer index processor scores. © McGraw-Hill. Higher scores indicate better performance.

MacBench 5.0 Comparison



Based on Apple internal testing using ZD's MacBench 5.0 processor performance scores. Actual performance on applications will vary. MacBench is a subsystem-level benchmark that measures the relative performance of Mac OS-based systems. Higher scores indicate better performance.

Q. What is new about the Macintosh PowerBook G3 Series?

A. In addition to its Pentium-crushing performance, the new Macintosh PowerBook G3 Series has a new slim and light design, making it nearly 20 percent thinner and almost 2 pounds lighter than its predecessor introduced in May 1998. The new PowerBook G3 also offers longer battery life—up to 5 hours on one battery.

Performance

Q. Are the Macintosh PowerBook G3 Series computers still the fastest notebooks available?

A. Once again we've introduced the fastest notebook computers in the world. Using new copper-based PowerPC G3 processors, the PowerBook G3 Series is up to twice as fast as Pentium II-based notebook and desktop PCs based on BYTEmark integer index processor performance scores. (See chart for details.)

Q. How much faster are the new 333- and 400-MHz processors than the 266- and 300-MHz processors in the previous PowerBook G3 Series?

A. The 333-MHz processor is about 55 percent faster than the 266-MHz processor with 512K of cache, while the 400-MHz processor is about 25 percent faster than a 300-MHz processor, based on MacBench 5.0 processor scores. (See chart for details.)

Q. What are the benefits of copper-based PowerPC G3 processors?

A. Copper-based processors offer several benefits, including drawing less power (4.5 watts on average) and running cooler. Both features are ideal for a mobile computer because they translate into better battery life.

Q. What is backside cache, and why is it so important in PowerBook performance?

A. Caching improves system performance by providing quick access to data and instructions en route to the processor. The 400-MHz PowerBook features 1MB of level 2 backside cache and the 333-MHz PowerBook features 512K.

Q. How fast is the backside cache?

A. The processor to level 2 backside cache ratio is 2.5 to 1. In other words, the cache speed is 133 MHz for the 333-MHz processor, and 160 MHz for the 400-MHz processor.

Q. How much level 1 cache is on the processor?

A. There is 64K of level 1 cache—32K for instruction and 32K for data.



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Q. Is the processor still on a daughter card?

A. Yes. The processor, cache, ROM, and memory upgrade slots are all on the daughter card.

Q. Will Apple offer processor card upgrades?

A. Apple has no plans to offer processor card upgrades at this time.

Q. What is the system bus speed?

A. The system bus runs at 66 MHz.

Memory

Q. What is the maximum memory capacity of the system?

A. The system can accommodate up to 384MB of memory in its two SO-DIMM memory slots. Prebuilt systems ship with 64MB installed in the bottom memory slot.

Q. Does the new PowerBook G3 use the same memory that was used in the previous generation of PowerBook systems?

A. Yes. There are two SO-DIMM slots. The lower memory slot accommodates cards measuring 1.5 inches and the top slot takes 2-inch cards. Check with the memory manufacturer to verify approval before purchase.

Q. What are the specifications of the memory cards that can be used in the system?

A. Customers should look for the following specifications: 3.3-volt, unbuffered, low-power, 64-bit-wide, 144-pin SO-DIMMs running at 66 MHz.

Q. How do you upgrade the memory?

A. Upgrading the system's memory has never been easier. First, shut down the system, disconnect the AC adapter, and remove any batteries in the bays. Next locate the release tabs next to the F1 and F9 function keys and slowly pull them toward you. The keyboard will pop up slightly; flip it over and lay it on the palm rests. Then remove the three Phillips screws and set them aside. To remove the heat shield, lift up the small metal handle. (It works the same way as on the previous PowerBook G3.) Now you have access to the memory upgrade slot and the internal hard disk drive. Insert the memory card into the slot on the top of the processor card. Replace the heat shield and keyboard.



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Battery

Q. What is the battery life of the system?

A. With one battery installed and power conservation functions in effect, such as power cycling, reducing processor speed, dimming screen brightness, and spinning down the hard drive, battery life is up to 5 hours. While playing a DVD movie, battery life is up to 3 hours.

Q. How long does it take to charge the PowerBook G3 batteries?

A. If the system is shut down or in sleep mode, it takes approximately 3.5 hours to recharge one battery inside the system. The system charges one battery at a time, just as it discharges one battery before switching to the other one.

Q. What is the watt-hour rating of the battery?

A. The lithium-ion battery is rated at 50 watt-hours.

Q. How long do you have to swap in a new battery while the system is in sleep mode?

A. You have approximately 2 minutes to swap a battery.

Q. What do the lights on the side of the battery do?

A. The four lights on the outside edge of the battery are the battery charge indicators. By pressing the button next to the lights, you will see how much charge is left in the battery. The battery indicates the amount of charge in one-quarter increments, from 25 percent to 100 percent. These lights also illuminate when the system is plugged into AC power and is charging, to let you know how much the battery has charged over a period of time.

Q. Does the AC adapter from the previous PowerBook G3 Series work with the new generation?

A. Yes, the AC adapter is the same.

Design Features

Q. What are the size and weight of the new PowerBook G3?

A. The new PowerBook G3 is almost 20 percent thinner and nearly 2 pounds lighter than its predecessor. It measures 12.7 by 10.4 by 1.7 inches and weighs 5.9 pounds with CD drive and battery installed. The system weighs about 6.3 pounds with the DVD-ROM drive and battery installed.

Q. What is the weight-saving module?

A. The weight-saving module is shaped just like a battery and can be slipped into the right or left bay to reduce the system's weight. It ships in the accessory kit with every system.

Q. Is it true that the white Apple logo on the new PowerBook G3 computer lights up?

A. Yes, the logo is illuminated when the system is on. The light from the display shines through to light up the logo.



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Q. Does the PowerBook G3 use translucent plastics?

A. The keyboard is made of translucent plastics in a color known as java or bronze. The trackpad, trackpad button, latch, and power-on key also have this new color scheme.

Q. What happened to the brightness, volume, and mute buttons?

A. The brightness, volume, num lock, and mute buttons are now located on the function keys F1 through F6, respectively. The function keys are not active unless you press the fn key in conjunction with, for example, F1. However, you can change the function keys to be active in a primary state. Simply go into the Options section of the Keyboard control panel to make them active.

Q. What other design improvements were made?

A. In addition to the size and weight reductions, all the I/O connectors were moved to the backplane. The expansion and battery bay eject levers have been refined so that they operate more smoothly and quietly. The latching mechanism is now a push-button release rather than a lift-up latch.

Q. Is the hard disk drive removable?

A. You can remove the hard disk drive for security or servicing. To get to the hard drive, flip back the keyboard and remove the heat shield. Once inside the system, locate the tab that is connected to the hard drive carrier and pull it toward you. This lifts the drive up and allows you to disengage the connector on the main logic board.

Q. Does the trackpad have "tap, double tap" functionality?

A. Yes. You activate it through the Trackpad control panel. This feature allows the customer to use the trackpad to click, double-click, and drag. Many customers like this option because it offers an economy of motion.

Q. Is there a docking station for the system?

A. Apple will not be providing a docking station or port replicator for the PowerBook G3 Series. Newer Technology, Inc. (www.newertech.com) expects to make a BookEndz port replicator for the PowerBook G3. Availability is slated for late August.

Q. Does the new PowerBook G3 have a reset button?

A. Yes, it is located on the backplane of the system next to the modem jack. To do a hardware reset, press the button.

Security

Q. Does the system have a lock-down mechanism?

A. There is a slot in which a Kensington cable lock or similar lock can be used.

Q. How does the keyboard lock work?

A. The keyboard lock is located on the backplane of the system next to the S-video port. Using a flat-head screwdriver, turn the screw. This engages the locking mechanism and prevents someone from opening the keyboard easily. The keyboard lock is meant to be a casual theft deterrent.



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Storage and Expansion

Q. What size is the PowerBook hard disk drive?

A. There are three hard disk drive capacities: 4, 6, and 10 gigabytes. The 10-gigabyte drive is available only through the Apple Store when you configure your own system.

Q. What is the speed of the CD-ROM drive?

A. The CD-ROM drive plays CDs at up to 24x speed. It can read the following formats: Audio CD, CD-ROM, Photo CD, Video CD, CD-I, CD-Ready, CD-Bridge, CD-WO, and Enhanced Music CD.

Q. What is the speed of the DVD-ROM drive?

A. The DVD-ROM drive is 2x speed (maximum); it plays CD-ROMs at up to 20x speed.

Q. Can the DVD-ROM drive play CDs?

A. Yes, the DVD-ROM drive reads all the same formats as a CD-ROM drive.

Q. Can a system with a CD-ROM drive play a DVD movie?

A. No, only systems with a DVD-ROM drive can play DVD movies. In addition to the DVD-ROM drive, these systems have the necessary hardware decode chip on the main logic board.

Q. Will Apple offer a DVD-Video kit for non-DVD-equipped systems?

A. Apple has not announced plans for a DVD-Video kit.

Q. What types of modules can the expansion bays accept?

A. The expansion bay on the right side of the system accommodates either storage or battery modules. It has a small door that folds back when you insert a storage module, such as a CD-ROM drive. The left bay accommodates only battery modules. Both bays can accept the weight-saving module.

Q. Do expansion bay modules from the previous PowerBook G3 Series work in the new system?

A. In moving to a thinner design, we had to change the size of the expansion bay and battery bay. Consequently, modules from the previous generation do not fit into the bays of the new system.

Q. Is the expansion bay hot-swappable?

A. Yes. All storage devices for the expansion bay are hot-swappable. There is no need to turn the system off or put it into sleep mode to exchange storage devices such as CD-ROM, DVD-ROM, Zip, or floppy disk drives. However, you must unmount any media, such as floppy, CD, or Zip disks, from the storage device before commencing a hot swap.

Q. Does the PowerBook G3 support PCI expansion chassis devices in the expansion bay?

A. No, there is no longer support for a PCI chassis.



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Q. Why don't the new PowerBook G3 computers come with a floppy disk drive?

A. As with its other computers, Apple is providing you with a product of the future, and we believe that low-capacity storage devices such as the floppy disk drive do not provide the best solution for everyone. Increasing file sizes as well as new standards for removable media have largely driven this change. SuperDisk drives read floppy disks; VST makes one for the expansion bay, or you can connect an external floppy disk drive through one of the USB ports.

Q. Are batteries hot-swappable?

A. Batteries can be hot-swapped when the system is connected to AC power or is operating with two batteries. When using a single battery, you should swap the battery only when the system is in sleep mode or shut down.

Video and Graphics

Q. Which graphics controller is used in the new PowerBook G3 Series?

A. The new PowerBook G3 systems incorporate the ATI RAGE LT Pro graphics controller from ATI Technologies, Inc. for 2D/3D graphics acceleration.

Q. How much video memory comes with the system, and is it upgradable?

A. The new PowerBook G3 ships with 8MB of video RAM, which is soldered onto the logic board and therefore is not upgradable.

Q. What is resolution scaling?

A. Traditionally notebooks have been limited to just one resolution because LCD displays are digital and have a fixed number of pixels—the native resolution (for example, 1,024 by 768 pixels). You can now increase the size of, or zoom, the images on your PowerBook G3 Series computer's 14.1-inch display by switching from the native 1,024- by 768-pixel resolution to a scaled resolution—either 800 by 600 or 640 by 480. The new, larger image is remapped into the fixed pixel space of the LCD display. This remapped image is optimized through interpolation and anti-aliasing technology. Because they are remapped, the scaled resolutions may not appear as sharp as the native resolution.

Q. Does the PowerBook G3 support video mirroring?

A. Yes. Video mirroring is a useful feature, especially for presenters who use a video projector. Video mirroring allows you to see your presentation or other work on the internal PowerBook display as well as on the external projection device. With its built-in video output, the PowerBook G3 makes an ideal teacher workstation.

Q. Can you use an external monitor with the PowerBook G3 Series?

A. The PowerBook G3 easily connects to an external monitor through the VGA video output port. With 8MB of video memory built into the system, it supports up to 1,280- by 1,024-pixel resolution in millions of colors with the lid closed, and up to 1,152- by 870-pixel resolution in millions of colors on a 20-inch monitor.



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Q. Can you use a projection device with the PowerBook G3 Series?

A. Yes. You can attach a projection device to the new PowerBook G3 computers through the video output port on the backplane.

Q. How does the S-video port work?

A. Simply plug the PowerBook into an S-video cable that attaches to your TV. If you don't have direct S-video support on your TV, you can use the S-video to composite adapter that comes with the PowerBook. Once both systems are on, you can choose the NTSC or PAL resolutions from the resolution panel in the Control Strip.

Q. Does the PowerBook G3 have dual-display (extended-desktop) capability?

A. Yes, the new PowerBook G3 has built-in dual-display capability. Simply hook up an external monitor, and the system defaults to this mode. Now customers can extend their workspace by connecting to an external monitor. This feature is especially helpful when working in graphics applications like Adobe Photoshop. Customers can place the image on the external monitor and leave their tools and palettes on the internal display of the PowerBook.

Q. Can you run the system with the lid closed?

A. Yes. Design improvements allow sufficient cooling to run the system with the lid closed. In this mode, all 8MB of video memory is used to display colors on the external display. The PowerBook must be plugged into the AC power adapter. To start up the PowerBook with the display closed and an external monitor attached, connect an Apple USB keyboard and mouse and then press the Power button on the external keyboard. To activate the internal display again, put the PowerBook to sleep and wake it with the display open.

I/O Technology

Q. What new I/O technology does the PowerBook G3 Series feature?

A. The new PowerBook G3 features two USB ports and 10/100BASE-T Ethernet, in addition to SCSI, VGA output, S-video output, RJ-11 for a modem, stereo input/output, and AC power.

Q. How does the system support FireWire?

A. The PowerBook G3 supports FireWire devices through its CardBus slot. FireWire CardBus cards allow you to add FireWire peripherals such as video camcorders and hard drives. Newer Technology sells the FireWire 2 Go card (www.newertech.com) and RATOOC Systems, Inc. (www.rexpccard.co.jp) sells the FireWire CardBus PC Card for the PowerBook G3.



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Communications

Q. Does the new PowerBook G3 Series feature high-speed networking capability?

A. The system now features 10/100BASE-T Ethernet. The interface is autosensing, so you simply plug in the Ethernet cable and let the interface configure itself appropriately for the type of network (10 megabits or 100 megabits).

Q. What is the speed of the built-in modem?

A. All configurations feature a modem that operates at speeds of up to 56 kilobits per second.*

Q. Does fax software come with the system?

A. We bundle FAXstf software with all of our PowerBook systems.

Q. Can you use a cellular phone with this modem?

A. No, the modem is not capable of attaching to cellular phones. However, if customers need a modem with cellular capability, they can purchase a PC Card modem to use in the CardBus/PC Card slot of the system.

Q. Does the modem have protection against PBX systems?

A. Yes. However, we advise customers to ask about the connection before plugging the modem into an unfamiliar socket.

Q. Does the modem work internationally?

A. Yes. With the proper telephone cables and connectors, you can use the PowerBook modem internationally.

Q. Does the PowerBook G3 have infrared capability?

A. Yes, it has 4-megabit-per-second IrDA capability. The infrared window is located on the back of the system.

Sound

Q. Can you add speakers or a microphone to the PowerBook G3 Series?

A. Yes. Stereo speakers and a microphone are already integrated into the PowerBook G3. However, you can attach external speakers and an external microphone to the system via the stereo input and output ports located on the back of the system. An external audio source can be used if it generates line-level output. To input sound from audio equipment with line-level output, you may need the appropriate adapters, which are available from most electronics stores. The Apple PlainTalk Microphone can be used with the PowerBook G3 Series, but the Apple Omni-directional Microphone is not compatible with this computer.

*Data speeds up to 56 Kbps; fax speeds up to 14.4 Kbps. Download speeds vary with line conditions and your ISP's modem capabilities. FCC regulations limit ISP transmission speeds to 53 Kbps in the U.S.



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PC Card/CardBus Slot

Q. Is it true that there is only one PC Card slot?

A. Yes. The new PowerBook G3 accepts Type I or Type II PC Cards and CardBus cards.

Q. How does the manual eject mechanism work?

A. To eject a card, drag the card's icon to the Trash. This does not eject the card, but it prepares the system for manual ejection. Then push the PC Card eject button once to release the button. Push it a second time to eject the card. After pulling the card out of the slot, push the button again to return the slot to its original position, flush with the edge of the system.

Q. Do CardBus cards work in the PowerBook G3?

A. Yes. A variety of cards are available, including FireWire cards.

Q. Do older PC Cards (PCMCIA cards) work in this system?

A. Yes. You can use Type I and Type II PC Cards in the CardBus slot of the PowerBook G3.

Q. Do Zoomed Video cards work in the PowerBook G3?

A. Yes. Zoomed Video cards for video capture and video input work in the PC Card/CardBus slot on the PowerBook G3.

Software

Q. What software is included with the new PowerBook G3?

A. The following applications come with the system: Mac OS 8.6, Apple Location Manager, Apple File Synchronization, Adobe Acrobat Reader 3.0, Apple Remote Access Client 3.1.3, Microsoft Internet Explorer 4.5, Microsoft Outlook Express 4.5, America Online 4.0, Netscape Communicator 4.5, and FAXstf 5.0.5. In addition, the PowerBook G3 can run the thousands of available Macintosh applications, ranging from general productivity applications like Microsoft Office to graphics-intensive programs such as Adobe Photoshop.

Cables

Q. What cables ship with the system?

A. The following cables ship with the PowerBook G3 Series:

- Telephone cable for use with the modem
- VGA to Macintosh adapter video connector
- S-video to composite adapter



FAQ

Macintosh PowerBook G3 Series

Configurations and Build-to-order Options

Q. What configurations are available?

- A. Two prebuilt configurations are available for purchase at the Apple Store or from Apple resellers:
- PowerBook G3 with a 333-MHz PowerPC G3 processor, 512K L2 cache, 14.1-inch TFT display, 64MB of SDRAM, 4GB hard drive, 24x (maximum) CD-ROM drive, 10/100BASE-T Ethernet, and 56K modem—U.S. estimated retail price \$2,499
 - PowerBook G3 with a 400-MHz PowerPC G3 processor, 1MB L2 cache, 14.1-inch TFT display, 64MB of SDRAM, 6GB hard drive, 2x (maximum) DVD-ROM drive, 10/100BASE-T Ethernet, and 56K modem—U.S. estimated retail price \$3,499

Q. What build-to-order options are available at the Apple Store?

A. Customers can configure a PowerBook G3 to meet their needs by choosing the processor speed, amount of memory, hard disk drive capacity (including a 10GB hard disk), and CD-ROM drive or DVD-ROM drive. You can also order an additional lithium-ion battery and third-party peripherals such as Zip and SuperDisk drive expansion modules or a FireWire CardBus card. Build-to-order systems and third-party options are scheduled to be available in late July. For up-to-date information about options and availability, visit www.apple.com/store.

PowerBook G3 Series Comparison

Q. What key features were carried over from the previous PowerBook G3 Series to the new generation?

- A. The following key features are included in both the new PowerBook G3 Series and the previous generation:
- 14.1-inch (diagonal) TFT active-matrix screen
 - 66-MHz system bus (same as PowerBook G3 introduced in September 1998)
 - Two SO-DIMM memory slots (the same memory can be used)
 - 45-watt power adapter
 - Built-in 56K modem
 - Embedded numeric keypad
 - Dual-battery support through expansion bays



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Q. What are the differences between the two generations?

A. Design enhancements in the new PowerBook G3 Series are listed in "new vs. previous generation" format.

New design—nearly 20 percent thinner and almost 2 pounds lighter

- Height: 1.7 inches vs. 2.0 inches
- Weight: 5.9 pounds vs. 7.8 pounds with CD-ROM and battery installed
- Weight-saving module reduces system weight to 5.7 pounds

Battery life

- Battery life: up to 5 hours vs. 3.5 hours (one battery)
- Lithium-ion battery rating: 50 watt-hours vs. 49 watt-hours

I/O technology

- Two built-in USB ports; no ADB and serial ports
- Built-in Ethernet: 10/100BASE-T vs. 10BASE-T
- Built-in 56K modem port on the backplane vs. the left side of the system
- Sound input and output ports behind the I/O door vs. outside corner
- Reset button on the backplane vs. keyboard combination of Ctrl, fn, Shift, and Power

Keyboard and hard drive

- Release tabs located on function key row vs. expansion bay release tabs
- New pull tab for hard drive removal
- New bronze-colored keyboard, trackpad, and trackpad button
- Brightness, volume, and mute buttons moved to the function keys

Expansion bay

- Eject levers refined for quieter and smoother movement
- Expansion bay no longer supports PCI expansion module

PC Card/CardBus

- One slot supports Type I or II cards vs. two slots supporting Type III cards
- Manual eject vs. software eject

Multimedia

- Dual-display capability built in vs. IX MICRO Road Rocket card
- DVD support on the main logic board vs. DVD PC Card