



# Macintosh PowerBook G3 Series FAQ

## Performance

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

A. We have again introduced the fastest notebooks in the world with the PowerBook G3 Series. The performance of our entry-level 233-MHz PowerPC G3 processor significantly outperforms even the fastest 300-MHz mobile computer incorporating the Pentium II processor, based on the BYTEmark integer index. BYTEmark integer index scores include the following:

	PowerPC G3	Pentium II
300 MHz	10.1	4.3
266 MHz	9.0	3.8
233 MHz	7.9	3.4

### 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 512K backside level 2 cache improves the performance of the 233-MHz PowerBook G3 Series computer by up to 70%.

### Q. What is the cache/processor ratio?

A. The backside cache runs at a 2:1 ratio with the processor. In other words, for the 233-MHz processor, the cache speed is 117 MHz, and for the 300-MHz processor, it is 150 MHz.

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

A. There is 64K of level 1 cache, which is twice the amount on Pentium and Pentium II processors.

## Battery

### Q. What is the battery life of the system?

A. With one battery installed and power conservation functions in effect, battery life is up to 3.5 hours, based on normal use. With two batteries, you can get up to 7 hours of battery life.

### 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 2 hours to recharge one battery inside the system. Two batteries charge in about 4 hours. 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 49 watt-hours.

### Q. How long do I 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% to 100%. 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.

## Memory

### Q. Is it possible to add more memory to the system?

A. Yes. There are two slots for memory on the daughter card that also houses the processor, cache, and ROM. The bottom slot is usually filled by the factory, which installs the base memory of either 32MB or 64MB. Additional memory can be installed in the top slot.

### Q. What is the maximum amount of memory that can be installed?

A. The system supports up to 192MB of RAM using standard 64-megabit-based SO-DIMMs.



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**Q. Does the PowerBook G3 Series use special memory modules or standard SO-DIMMs?**

**A.** Standard SO-DIMMs can be used; however, we recommend choosing memory that has been tested and approved for use with the new PowerBook G3 Series. Check with the memory manufacturer to verify approval before purchase.

## Design Elements

**Q. What are the advantages of using just one enclosure for all of the PowerBook G3 models?**

**A.** Using one enclosure means users can share expansion bay devices, power adapters, memory, hard disk drives, and batteries between different configurations. And whether you purchase the most expensive or the least expensive configuration, you'll have the elegant design of the new PowerBook G3 Series.

**Q. Why is the Apple logo white on the new PowerBook G3 computers?**

**A.** Apple is changing its look in many areas, including the use of the logo on our products.

**Q. Why aren't both expansion bays the same size?**

**A.** The 5.25-inch expansion bay on the right side of the system can accommodate either 5.25-inch or 3.5-inch devices. It has a small door that folds back when you insert a 5.25-inch module, such as a CD-ROM drive. The left bay can accommodate only 3.5-inch modules, such as a battery or a floppy disk drive.

**Q. Is the hard disk drive removable?**

**A.** The hard disk drive can be removed for security or servicing. You simply loosen the one screw that holds down the casing around the hard disk drive. The screw stays with the hard disk drive casing to prevent loss of the small part.

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

**A.** Apple does not recommend running the system with the lid down, since in these new systems one of the main ways the system is cooled is by allowing air to escape through the keyboard. If the lid is closed, you impede the cooling process.

**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. This option is desirable for many customers 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](http://www.newertech.com)) has announced its G3 BookEndz port replicator for the PowerBook G3.

## Expansion Bays

**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 Apple believes 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 emerging new standards for removable media have largely driven this change. Now you can choose the type of hot-swappable expansion bay module that best fits your needs, whether that's a floppy disk drive, VST Zip drive, third-party expansion bay hard disk drives, or emerging removable-media devices.

**Q. Are the expansion bays hot-swappable?**

**A.** Yes. All storage devices for the expansion bays 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. 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.



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## Video/Graphics

### **Q. What is resolution scaling?**

**A.** Traditionally notebooks have been limited to just one resolution because LCD displays are digital in design 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 by interpolation and anti-aliasing technology. Because they are being remapped, the scaled resolutions may not appear as sharp as the native resolution.

### **Q: Can I add the resolution-scaling capability to the PowerBook I already own?**

**A.** No. If your PowerBook did not come with the resolution-scaling capability, it cannot be added later. This feature is enabled by a combination of software and hardware provided with the new PowerBook G3 Series models introduced in September 1998.

### **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 came 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. Who makes the graphics controller?**

**A.** The new 14-inch PowerBook G3 systems incorporate the ATI RAGE LT PRO graphics controller from ATI Technologies, Inc. for 2D/3D graphics acceleration.

### **Q. Is the SGRAM (or video RAM) upgradable?**

**A.** No. Since the SGRAM is soldered onto the logic board, it is not upgradable.

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

**A.** The 14.1-inch models come with 4MB of SGRAM (video memory), so they support up to 1,280-by-1,024-pixel resolution in thousands of colors and 1,152-by-870-pixel resolution in millions of colors on a 20-inch monitor. For the image to appear on the built-in PowerBook display and the external display at the same time, the PowerBook must be set at its simulscan resolution—1,024 by 768 pixels for 14.1-inch PowerBook G3 systems.

### **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. Can you use dual, extended-desktop mode?**

**A.** You can use dual, extended-desktop mode with a Road Rocket CardBus card from IXMICRO ([www.ixmicro.com](http://www.ixmicro.com)). This PC Card can be connected to an external monitor or projection device.

## 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 electronic 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.

### **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.** With the proper telephone cables and connectors, you can use this modem internationally.



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## CardBus Slots

### Q. Do CardBus cards work in the PowerBook G3?

A. Yes. A variety of cards are available, including 100BASE-T Ethernet cards and the IXMICRO Road Rocket for dual-monitor capabilities.

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

A. Yes. You can use PC Cards in the CardBus slots 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 lower PC Card/CardBus slot on the PowerBook G3.

For more information about third-party options, visit <http://www.apple.com/powerbook/accessories/other.html>.

## Cables

### Q. What cables come with the systems?

A. The PowerBook G3 Series systems include a 10BASE-T Ethernet cable, a telephone modem cable, a VGA-to-Macintosh video adapter, and an S-video-to-composite adapter.