Q•RAM

Apple IIGS Memory Card
Owner's Manual

by Jerry Kindall

- *1, 2, or 4 Megabyte IIGS Expansion*
- *Expandable Using 1 Megabyte SIMMs*
- *Fully DMA Compatible*
- *Easy to Install, Configure, and Use*

INTRODUCTION

Congratulations—you've made a smart choice. The Q•RAM is an economical way to add up to four megabytes of memory to your Apple IIGS computer. More memory will make your computer breathe a little easier when you're working with today's memory-hungry programs and large data files. It's simple to install and even easier to use.

The memory modules on the Q•RAM are called *SIMMs*—Single In-line Memory Modules. Each SIMM is a small circuit board with eight memory chips. SIMMs are easy to work with—there's only one part instead of eight separate chips—and there's no danger of bending the pins during installation. And since most Macintosh models use SIMMs, they're inexpensive and plentiful. If you upgrade to a Macintosh you can even move the SIMMs from your Q•RAM to your Mac!

INSTALLATION

Installing the Q•RAM is so ridiculously simple that we can't think of a metaphor colorful enough to describe just how easy it is. Here's how:

- Turn off your IIGS, but leave it plugged in. Unstack the monitor and anything else that's sitting on top of your computer and set it aside.

- Remove the top of your Apple IIGS by pressing in on the latches on the back of the computer and pulling upward. This works best if you sit with the front of the computer facing you, and reach around it to press on the latches with your index fingers while pulling up on the side of the case with the palms of your hands. The back of the case lifts up; swing it toward you, using the front of the case as a "hinge." Then pull it off and set it aside.

- Touch the power supply (the metal box that takes up most of the left half of the inside of the computer) to discharge any static electricity you may have built up on your body.

- Locate the Memory Expansion Slot inside the computer. It looks like the rest of the IIGS's slots, but it's located toward the *front* of the computer, on the right side, instead of in the back.

- If you already have a card in the Memory Expansion Slot, remove it by pulling up gently on the end of the board toward the back of the computer. When it comes loose, pull it out and put it aside.

- Now install the Q•RAM. Line up the connector at the bottom of the Q•RAM with the Memory Expansion Slot and get the card started into the slot with a gentle pressure. Then place the heel of your hand on top of the card directly over the Memory Expansion slot and press down firmly until the card is seated.

- Finally, put the top back on your IIGS, using the metal springs at the front of the case to "hinge" the lid back on. Press down firmly on the rear corners of the case until the latches lock. You're done!

MEMORY TEST

Boot the Q•RAM Diagnostic Disk to make sure all the memory is available and functioning properly. If there's a problem, the program will tell you which SIMM is defective. We tested your Q•RAM before we shipped it, but this should give you some added peace of mind.

ADDING SIMMs

The Q•RAM supports configurations of 1, 2, and 4 megabytes. Because of the way the IIGS addresses memory cards, the Q•RAM does not support a 3 megabyte configuration. (Of course, the memory on the Q•RAM is *in addition to* the memory built into your computer.) Keep this in mind when buying more SIMMs. Call Quality Computers for the best prices on SIMMs for your Q•RAM.

Here's how to install new SIMMs.

- Turn off the IIGS but leave it plugged in.

- Remove the top from the IIGS.

- Touch the power supply to discharge static electricity.

- Remove the Q•RAM from the Memory Expansion Slot.

- Install the new SIMM by sliding it into the next empty socket, then pressing on the edges of the SIMM until it locks into place. Fill the sockets sequentially from the top of the card to the bottom.

- Configure the switches according to the amount of memory now installed on the card. The switches are located about in the middle of the right hand side of the card.

Memory size	Switch 1	Switch 2
1 megabyte	Off	Off
2 megabytes	On	Off
4 megabytes	On	On

- Re-install the Q•RAM in the Memory Expansion Slot.

- Put the top back onto the IIGS.

- Boot the Q•RAM Diagnostic Disk to test the new SIMMs.

USING THE Q•RAM

All IIGS-specific programs (AppleWorks GS, *GraphicWriter III*, etc.) will automatically recognize the Q•RAM's memory. So in most cases, installing the Q•RAM is all you need to do to start taking advantage of its extra memory.

Many ProDOS 8 (IIe/IIc) programs also recognize the Q•RAM's memory. The most popular of these are AppleWorks, *Publish It!*, *ProTERM*, and *InWords*. There are, of course, others too numerous to list here.

APPLEWORKS 2.0 & 2.1

AppleWorks 2.0 and 2.1 have a programming error, also known as a *bug*. They won't work if you have more than two megabytes of free memory. (*Free memory* is the memory left over after the program and the system software have claimed the memory they need.) The best solution to this problem is to upgrade to AppleWorks 3.0 ($79 through Claris or Beagle Bros)—you'll get a spelling checker and a host of other enhancements. AppleWorks 3.0 won't do anything with any memory above two megabytes, but it won't crash either.

RAM DISK

The Q•RAM is compatible with the Apple IIGS's RAM Disk feature, which allows you to reserve part of your system memory as a fast "disk drive." It's not really a disk drive, of course—its contents vanish when you turn off the computer—but copying programs to the RAM Disk is a great way to speed up slow disk loading

To create a RAM Disk, enter the Desk Accessory menu by pressing Control-Ö-Escape. Then select the Control Panel, and from the Control Panel menu, select RAM Disk. You can select the size of the RAM Disk with the arrow keys; press Return to save your settings. (If your RAM Disk screen has both a Minimum and a Maximum setting, make sure both are set to the same value.) You must turn the IIGS off and back on before your changes to the RAM Disk settings take effect.

Setting up a RAM Disk does subtract from your free memory. If you have a 1 megabyte Q•RAM in a ROM 01 IIGS (for a total of 1.25 megs), you could easily set up an 800K RAM disk to hold the contents of a 3.5" disk, but then you wouldn't be able to boot GS/OS, which requires at least 1 megabyte of free RAM. (800K, by the way, is a good size for your RAM Disk, because that's exactly the same size as a 3.5" disk. That means you'll be able to do a fast disk copy to load a 3.5" disk onto your RAM disk instead of having to do a slower file-by-file copy.)

Before you can boot from your RAM Disk, you must make sure it contains a *boot block*. If you disk-copied a 3.5" disk to your RAM Disk, the boot block was copied too. Otherwise, if you plan to fill your RAM Disk by copying files to it one at a time, use the Finder's *Initialize* option (or an equivalent utility) to "format" your RAM Disk and lay down the boot block.

WARRANTY

The Q•RAM card is warranted against defects for five full years. The SIMMs, if you bought them from us, are also warranted for five years. If either fail within the warranty period, first contact our technical support department. They may be able to get you up and running without the necessity of a return. If they determine that you have a defective product, they will provide return authorization and instructions.