



RAMPro IIGS Manual

Introduction

The *RAMPro IIGS* is a memory expansion card that adds 1, 2, or 4 megabytes of memory to the 256k of RAM built into the Apple IIGS. The amount of memory that the *RAMPro IIGS* adds depends upon how many 1-megabyte expansion kits have been installed on the card.

You can upgrade the *RAMPro IIGS* by getting one or more *Apricorn 1-megabyte expansion kits* or you can have your dealer upgrade the card for you. Each kit adds 1 megabyte to the memory of the card. See Section 3 for instructions on how to install the chips that come in the expansion kit on the *RAMPro IIGS*.

The memory on the *RAMPro IIGS* can be used as an extension of the built-in memory of the computer. Used in this manner, the extra memory that the card adds to the computer will be accessed automatically by various applications.

The *RAMPro IIGS* can also be used as a RAM disk. An application copied to the RAM disk can be run more quickly than when the application is on a regular disk. In addition, switching between multiple applications can be done more quickly when the applications are copied to the RAM disk as opposed to a regular disk.

This manual contains the following sections:

Section 1: Installing the RAMPro IIGS in the Apple IIGS

Section 2: Using the memory on the RAMPro IIGS as a RAM disk

Section 3: Installing 1,2 or 4 megabytes on the RAMPro IIGS

Section 4: Warranty

Section 1: Installing the RAMPro IIGS in the Apple IIGS

If you have any memory expansion kits to add to the *RAMPro IIGS*, you should add them to the card prior to installing the card in the Apple IIGS. Refer to Section 3 for information on upgrading the *RAMPro IIGS*.

1. Turn off the power and remove the lid of the Apple IIGS. The lid can be removed by wrapping your hands around the back corners of the case and holding the lid latches in with your index fingers while you push up on the lid with your thumbs. As you feel the lid release, lift it off the case.
2. Pick up the *RAMPro IIGS* card by its edges. Avoid touching the gold connector contacts or any components with your hands as this could damage the card. Insert the *RAMPro IIGS* in the memory expansion slot. Press firmly with a slight rocking motion from front to back until the card is fully seated in the slot.
3. Replace the Apple IIGS lid. Lay the front edge of the lid in the groove in the front of the Apple IIGS case and lower the back edge of the lid into place. Press down on the back corners of the lid until you hear the latches click shut.
4. Go to the Control Panel Program on the Apple IIGS by turning on the power while holding down the option key. Choose the RAM disk option from the menu of the Control Panel Program. The amount of memory on the installed *RAMPro IIGS* card should match the number next to "largest selectable." If it does not, check to see that the *RAMPro IIGS* is fully seated in the memory expansion slot and that the chips of any expansion kits have been added correctly. Contact your dealer or the Apricorn Service Department for additional help.

Section 2: Using the Memory on the RAMPro IIGS as a RAM disk

Some applications take advantage of the extra memory on the *RAMPro IIGS* automatically. For these types of applications, you will not need to use the *RAMPro IIGS* memory as a RAM disk.

Another way to use the memory on the *RAMPro IIGS* is to use it as a RAM disk. This will speed up access to applications that do not access the extra memory on the card automatically. If you use memory on the card as a RAM disk, that memory isn't available for use by applications designed to use it automatically.

In order to use the *RAMPro IIGS* as a RAM disk, you need to know how to copy applications to the RAM disk, how to start them from the RAM disk and how to save files to the RAM disk. Files saved to the RAM disk are saved only temporarily as opposed to saving files to a regular disk.

Designating RAM disk size

In order to use the memory on the card as a RAM disk, the Control Panel settings must be changed to designate how much memory should be set aside as a RAM disk. For guidance on how to change Control Panel Settings, refer to the Apple IIGS Owner's Guide.

If no memory is designated for use as a RAM disk, all of the memory on the *RAMPro IIGS* will be available for use by applications that access the memory automatically. However, if you will be copying applications and saving files on the card, you must use the Control Panel Settings to set the maximum and minimum RAM disk size. The amount of the card's memory that can be used as a RAM disk is limited to the "maximum" setting. The "minimum" setting limits the amount of the card's memory that can be used by applications.

NOTE: For applications that use *ProDOS* versions earlier than 1.2, the minimum and maximum RAM disk size must be set to the same number.

In the example shown in *Figure 2-1*, there is 1 megabyte available on the *RAMPro IIGS*. The minimum RAM disk size has been set to 768K and the maximum RAM disk size is set to 832K. With these settings, applications will have a minimum of 192K (1024K - 832K) to use and can use up to 256K (1024K - 768K) as long as that memory isn't already being used as a RAM disk.

If an application indicates that it needs more memory than you have designated, you can reduce the maximum RAM disk size using the Control Panel Program.

NOTE: New RAM disk settings will not take effect until the computer has been restarted, (powered-off and then back on).

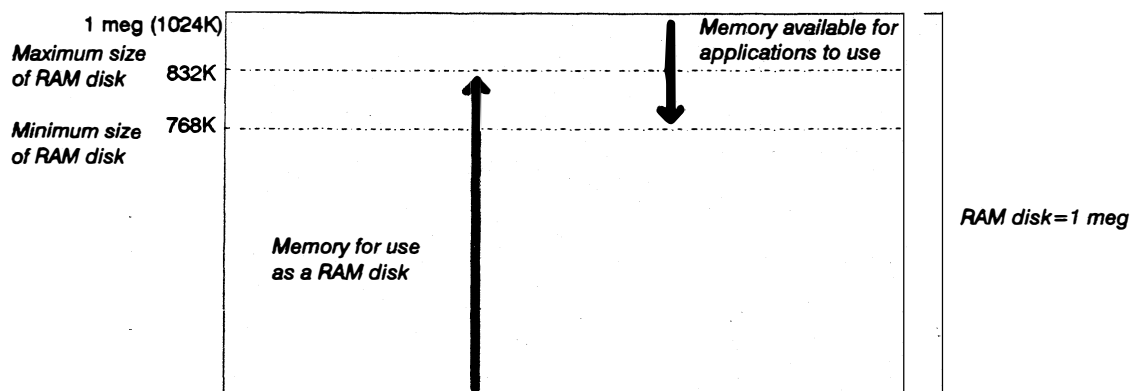


Figure 2-1
Setting RAM disk size

Addressing the RAM disk

Some applications will ask you for the slot and drive number of the RAM disk. A memory expansion card used as a RAM disk appears to be in slot 5. A 3.5-inch drive connected to the disk drive port also appears to be in slot 5. How to determine the location of your RAM disk in relation to your 3.5-inch drives is explained below:

- Rule #1:** *The startup device is always drive 1.*
Rule #2: *RAM disks come before 3.5-inch disks.*
Example #1: *If a RAM disk is the startup device, (drive 1), then the first 3.5-inch drive is drive 2 and a second 3.5-inch drive would be drive 3.*
Example #2: *If a 3.5-inch drive is the startup device, (drive 1), then the RAM disk is drive 2 and a second 3.5-inch drive would be drive 3.*

NOTE: ProDOS 1.1.1 only supports two devices per slot. With ProDOS 1.1.1-based applications, drive 3, (your second 3.5-inch drive), is invisible. ProDOS 1.2 recognizes up to four devices per slot.

Using the RAM Disk

The following steps need to be performed in order to copy and run applications from the RAM disk:

1. If you plan to use the RAM disk as your startup device, you need to format the RAM disk. This is necessary only if you are using the RAM disk as your startup device. The RAM disk is preformatted at startup for storing applications and documents.
2. Copy applications to the RAM disk.
3. If you want the RAM disk to be the startup device, select the RAM disk as your startup device by using the Control Panel Program.
4. Start up your application from the RAM disk.

NOTE: *When the RAM disk is selected as your startup device, typing PR#5 in BASIC or pressing Open-Apple - Control - Reset will cause the computer to start up from the application on your RAM disk as opposed to starting up from a program disk in one of the disk drives. Remember that if you turn off the power to computer while the RAM disk is selected as your startup device, you will get the message Check Startup Device. This is because what's on the RAM disk is lost when the power is turned off. In this case go to the Control Panel Program and change the startup device to one of your disk drives.*

Formatting the RAM disk

Use the formatting option on your utility disk to format the RAM disk, just as you would format a regular disk. If the applications that you want to copy to the RAM disk are ProDOS-based, choose ProDOS as the format. Similarly, if the applications to be copied to the RAM disk are Pascal-based, choose Pascal as the format.

NOTE: *Remember that the RAM disk emulates a drive connected to slot 5 in the computer.*

If the formatting program asks for the location, (slot and drive number), of the RAM disk and you are using a 3.5-inch drive as the startup device, answer slot 5 and drive 2. If the RAM disk is the startup device or you don't have a 3.5-inch drive, answer slot 5 and drive 1.

NOTE: *DOS 3.3 applications and documents will not work on the RAM disk because DOS 3.3 was designed for 5.25-inch disks with a storage capacity of 143k. DOS 3.3 is unable to use a larger storage device like a RAM disk.*

Copying applications to the RAM disk

Using the Copy Files program on your utility disk, copy all the files from your application disk to the RAM disk. If you are copying the files of more than one application, put files in separate subdirectories to avoid the problem of duplicate filenames in the main directory.

The RAM disk as the startup device

To start up directly from an application on the RAM disk, use the Control Panel Program to change the startup slot to the RAM disk. With the RAM disk as your startup device, pressing Open-Apple - Control - Reset or typing PR#5 in BASIC will cause the application to start up. If you have more than one application on the RAM disk or if the RAM disk is not your startup device, get into BASIC and type /RAM5/filename, (where RAM5 is the name of your RAM disk and filename is the name of your application's system file).

Saving documents to the RAM disk

Documents can be saved to the RAM disk just as you save documents to a regular disk; however, a document can only be temporarily saved on a RAM disk. Unless you save the contents of the RAM disk to a regular disk before you turn off the power, the contents of the RAM disk will be lost when the power is turned-off. If the application that you are using asks for a pathname, type a slash, the name of your RAM disk, another slash, and the name of the document. (If you didn't format the RAM disk, its name is /RAM5).

Section 3: Installing 1,2 or 4 megabytes on the RAMPro IIGS

The Apricorn RAMPro IIGS memory expansion card adds 1,2, or 4 megabytes of memory to the 256k of RAM built into the Apple IIGS. The amount of memory that the card adds depends upon how many 1-megabyte expansion kits have been installed on the card. (Each expansion kit adds 1 megabyte of memory to the card). Upgrading the card to 3 megabytes is not an option because applications have difficulty using that memory configuration. Each memory expansion kit comes with 8 RAM chips.

To install 1,2 or 4 megabytes in the RAMPro IIGS:

1. Set the DIP switch on the card to the settings for the number of megabytes you are going to install:

	<u>Switch</u>	
	1	2
1 megabyte	off	off
2 megabytes	on	off
4 megabytes	on	on

2. To install 1 megabyte, (8 RAM chips), put the chips in the locations shown in *Figure 3-1*.
3. To install 2 megabytes, (16 RAM chips), put the chips in the locations shown in *Figure 3-2*.
4. To install 4 megabytes, (32 RAM chips), put the chips in the locations shown in *Figure 3-3*.

Installing the chips

1. Install each chip so that the notched end is pointing up. **WARNING: INSTALLING A CHIP BACKWARDS MAY DAMAGE THE CHIP, THE RAMPro IIGS CARD AND/OR THE APPLE IIGS.**
2. Insert the chip into the socket, taking care to align all of the pins on the chip with the holes in the socket. Be careful not to bend or break any of the pins on the chip.
3. Press down evenly on the chip to make sure that it is fully-seated.
4. Check to make sure that all the pins on the chip are in the socket holes and not hanging over the side of the socket or bent underneath the chip.

After you finish installing the chips on the card, you are ready to install it in the Apple IIGS. Refer to the installation instructions in Section 1.

Installing 1, 2 or 4 megabytes on the RAMPro IIGS

Note: Installing chips in locations other than shown in the three diagrams below will cause the RAMPro IIGS to function improperly.

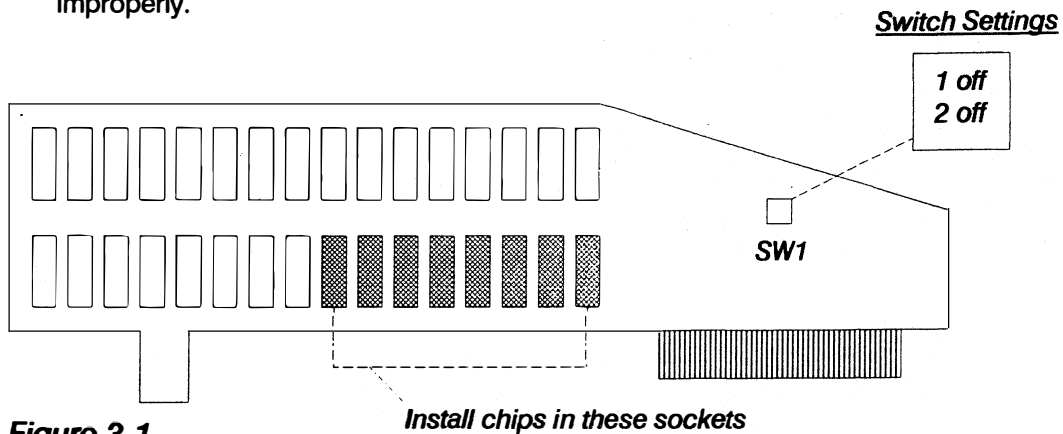


Figure 3-1
1 Megabyte

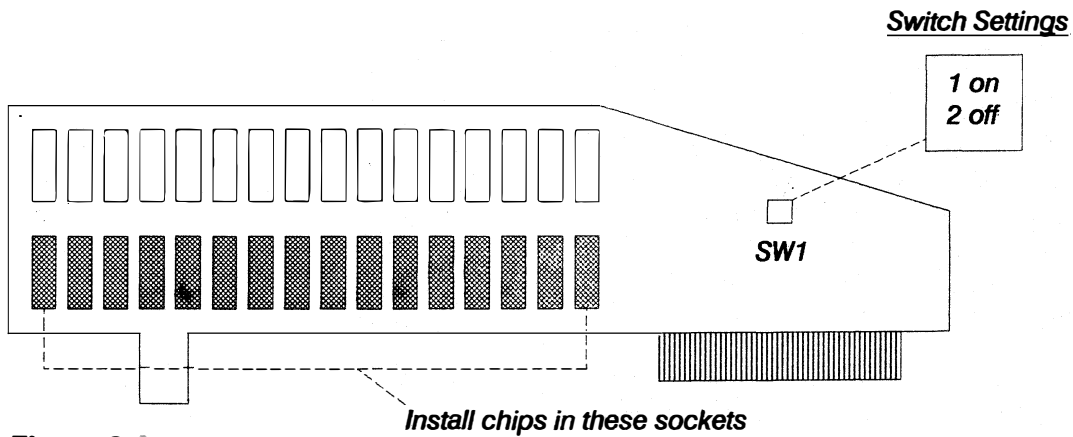


Figure 3-2
2 Megabytes

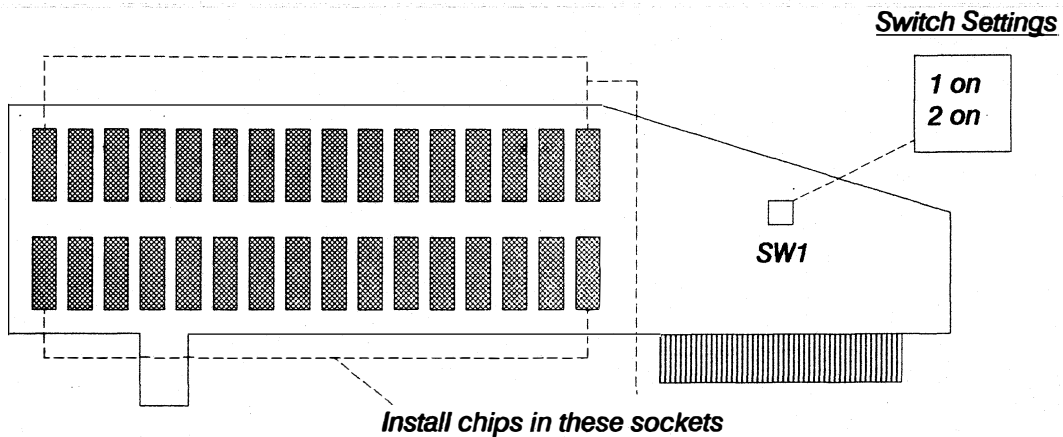


Figure 3-3
4 Megabytes

Section 4: Limited Lifetime Warranty

Apricorn warrants its products to be free from defects in materials and workmanship for as long as the original purchaser owns the product. This warranty is extended only to the original purchaser and is not assignable.

In the event of failure the remedy will be repair or replacement of the product at no charge to the original purchaser. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication or has been modified in any way. This warranty does not extend to any other products used in conjunction with this product and is limited to the repair or replacement of the product.

To obtain warranty service, obtain a return authorization number from the Apricorn Service Department. Securely package the product along with the return authorization number, customer phone number and mailing address, bill of sale as proof of original purchase as well as a description of the problem. Return the product postage prepaid and insured to:

*Apricorn Service Department
10670 Treena Street, Suite 10
San Diego, CA 92131*

Products will be returned to the customer via method determined by Apricorn. Postage will be paid to any destination within the United States of America. If the customer requires some other form of shipment or is located outside the USA, then the customer must bear the cost of return shipment.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Apricorn shall have no liability or responsibility with respect to the merchantability or fitness of the product for a particular purpose. Apricorn is not liable or responsible for any direct, indirect, incidental or consequential damages arising out of the use of this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.