

ZipGS

USER'S MANUAL

9/32

ZipGS

Ver 1.02

GUARANTEE

Zip Technology offers a thirty day, unconditional, moneyback guarantee for the ZipGS and all upgrades.

WARRANTY

Zip Technology offers a one year warranty on the ZipGS.

IMPORTANT: This warranty is subject only to factory defects that effect the performance of the ZipGS.

Each ZipGS is inspected for defects prior to shipping. Any ZipGS returned that has sustained physical damage caused by mishandling is subject to a \$75.00 repair fee.

For that reason, it is again important to note that when returning a ZipGS, it should be packed in a sturdy box with protective padding and reinforcement of some kind, such as in the original packaging. In this way the customer will not be penalized for returning a ZipGS which suffers from performance defects, but was subsequently damaged during shipment.

INTRODUCTION

Congratulations on the purchase of your new ZipGS! The ZipGS is your complete solution to the Apple IIGS's number one problem... **SPEED**. Once your ZipGS is installed, your IIGS will outperform the average Macintosh, or IBM computer! The creation of the ZipGS is the result of input from thousands of customers, user groups, educators and small business owners.

Your ZipGS has been specifically designed to allow the speed and cache size to be upgraded as your changing needs desire. The ZipGS was created with your future in mind. Your satisfaction is our number one concern!

NOTES OF INTEREST ABOUT YOUR ZIPGS

The ZipGS is a full size plug-in card that occupies a slot inside your computer. One of the main components on the ZipGS is its 65816 microprocessor. The microprocessor is the heart of your computer, and is responsible for handling all of your computer's operations. Since the ZipGS replaces your current 65816 microprocessor, the ZipGS has one as well. However, unlike the microprocessor that is standard in the IIGS, the microprocessor on the ZipGS can process information at a much faster rate.

The second major component is the Cache RAM installed on the ZipGS. Cache RAM operates as a fast reduced-delay workspace for the fast microprocessor. The Cache RAM is faster than the normal RAM in the IIGS. To speed up the processing speed of the IIGS, the microprocessor needs a RAM workspace that is faster than normal in order to accelerate operation, and not be delayed by the slower speed of the RAM in the computer.

The last major component of the ZipGS is a custom ASIC (Application Specific Integrated Circuit.) This ASIC manages all of the operations necessary to keep your ZipGS operating at its optimum speed while at the same time makes sure that the ZipGS is as completely compatible as was your original microprocessor. For those of you who have a basic understanding of electronics, the custom ASIC consists of over 3000 logic gates or the equivalent of 350 integrated circuits. By keeping the number of components on the board to a minimum, the simple design requires only 120 ma. of power. The low power consumption will help insure many years of trouble free use.

PACKAGE CONTENTS

With your ZipGS, you should find this instruction manual, a utility disk, and a custom metal chip removal tool.

INSTALLATION

The ZipGS is very simple to install and operate. To better aid you in understanding the installation procedure, we have included a special ZipGS HyperStudio stack on the utility disk. This HyperStudio stack is a unique animated, pictorial instruction manual that will walk you through the proper installation procedure of the ZipGS.

NOTE: The utility disk is not a boot up disk, it **requires System Disk 5.0 or above** to be booted prior to its use. To view the HyperStudio stack, it is necessary for you to boot up a system disk, and launch the application on the utility disk called **RunMe.Sys16**. (If you are unfamiliar with launching applications, please consult your Apple IIGS Manual.)

After you have reviewed the HyperStudio stack, you are ready to install the ZipGS into your computer using the step-by-step procedure starting on page 3.

NOTE: The DIP switches on your ZipGS have been factory preset, and will not need to be changed for successful operation. Information regarding the DIP switches is located in the HyperStudio stack. Please consult the stack if you wish to know more about the DIP switches.

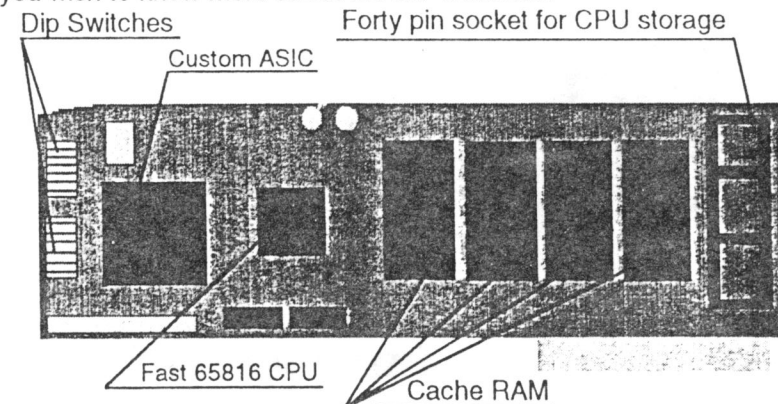


Figure 1 - Components on the ZipGS

STEP-BY-STEP INSTALLATION PROCESS

IMPORTANT--GROUND YOURSELF

The 65816 microprocessor, your IIGS computer, and your ZipGS can be easily damaged by static electricity. Static electricity can build up in all different types of environments. Therefore, it is very important that you ground yourself prior to installing or removing the microprocessor in your IIGS, or the ZipGS. To ground yourself, touch the metal power supply inside your Apple IIGS.

NOTE: The IIGS power cord must be plugged into the computer, and a three prong wall socket for the grounding to take place.

Please follow these simple steps to install the ZipGS:

1. Turn off all power to the Apple IIGS.
2. Remove the cover from your computer.
3. **TOUCH THE POWER SUPPLY TO GROUND YOURSELF BEFORE PROCEEDING.**
4. Locate the forty pin chip on the motherboard labeled "CPU." (The CPU is your old 65816 microprocessor.)
5. Carefully remove any of the plug-in boards that could prevent easy access to your CPU.

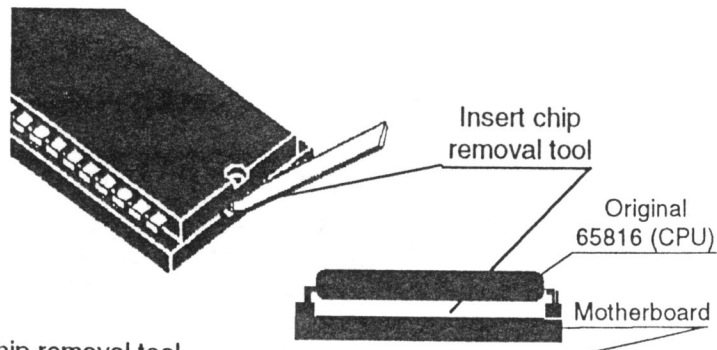


Figure 2:
Using the chip removal tool

6. REMOVE THE CPU.

NO TECHNICAL EXPERIENCE IS NECESSARY TO REMOVE THE CPU. HOWEVER, IF YOU DO NOT FEEL CONFIDENT IN PERFORMING THIS INSTALLATION, YOUR LOCAL DEALER CAN DO IT FOR YOU FOR A SMALL FEE.

As shown in figure 2, slide the short end of supplied chip removal tool into the small gap between the end of the microprocessor and its socket. **NOTE: BE CAREFUL NOT TO GET THE TOOL UNDER THE SOCKET.** If you are having difficulties inserting the tool between the microprocessor and the socket, use a fine point screwdriver to loosen the chip.

Once you have successfully placed the short end of the tool under the chip, gently pull back on the long end of the tool until that end of the microprocessor is lifted from the socket. Now follow the same procedure on the opposite end of the chip. Once both ends of the chip are free, carefully remove the CPU by hand from the socket. Be careful not to bend any of the pins in doing so. Place the just removed CPU in the forty pin socket on the ZipGS marked "ORIGINAL 65816" for safe keeping. **This socket is included for your convenience and is not used by the ZipGS (see figure 1.)**

7. NOW YOU ARE READY TO INSTALL THE ZIPGS.

Attached to the ZipGS is a grey ribbon cable. The connector on the end that is not attached to the ZipGS needs to be plugged into the forty pin socket from which you just removed the CPU.

Carefully line up all forty pins on the connector with the corresponding socket holes. When the pins and holes are lined up perfectly, gently press the plug into place. The plug should go in with little effort. Once the plug is in place give it a firm push to insure that it is securely connected in the socket.

8. Now insert the card into slot 2 or 3, and firmly press into place. **NOTE: Placing the card in a slot does not override that slots built in port. Slot 3 is the recommended slot for the ZipGS.**

9. Turn on your computer. The first thing you should notice is the RED LED on the ZipGS will light. Next, you should hear the familiar Apple IIGS bell and shortly thereafter your system should begin to boot. During the booting process you may notice the other LED flicker. **The flickering LED indicates that everything is OK.**

10. Before you replace the cover, do a visual check to make sure that everything is installed correctly. Be sure to check the following:

Has the chip removal tool ^{NOT} be left inside the computer?

Is the grey cable connected FIRMLY to both the CPU socket, and to the ZipGS?

11. CONGRATULATIONS! YOU HAVE JUST SUCCESSFULLY INSTALLED THE ZIPGS!

Replace the cover and enjoy the new world of fast computing...

HOW TO USE YOUR ZIPGS

The ZipGS requires no special software to function at its normal accelerated speed. Just as you would normally slow down the regular IIGS microprocessor, you can slow down the ZipGS by simply changing the speed setting in the IIGS control panel. To change the speed of your computer to one of the sixteen different speeds available with the ZipGS, or to change any of the other configurable functions, you need to use the support software located on the utility disk. **NOTE: All of the configurable functions of the ZipGS are described within the ZipGS HyperStudio Stack on your utility disk.** The utility software allows easier access to the internal functions of the ZipGS and provides a means of making temporary and permanent changes to the ZipGS without having to open the computer and manually change the DIP switch settings.

When examining the Zip utilities disk, you will find two executable files. One is called "RunMe.Sys16", the other is called "Installer". Both of these files can be launched by "double clicking" the ICON associated with the file. The other files on the disk are extra files that support these two programs--they can be ignored. Please consult your IIGS manual if you do not understand how to launch a file.

RunMe.Sys16: This application is a handicapped version of *HyperStudio* by Roger Wagner Publishing. To view the ZipGS HyperStudio stack, launch this application. By moving your cursor around the screen, and clicking the mouse button, you can learn all you need to know about your ZipGS.

NOTE: Although it is not necessary, it is recommended that you go through the HyperStudio Stack at least once. The Zip utilities include options that are only described in the stack.

Installer: Use the Installer application to automatically install the ZipGS support utilities onto the disk of your choice. You can install all or only some of the utilities. By executing this program, you will be presented with a list of the ZipGS utilities. Each item on the list shows the utility's title and the approximate disk space that it requires on your disk.

THE ZIPGS UTILITIES

ZipGS CDA: This application is a "classic desk accessory" (or CDA) that enables you to change the speed of the ZipGS, and any of the other settings described in the ZipGS HyperStudio stack, from within any other application. The ZipGS CDA is the only way to make a change in the operation of the ZipGS from within a ProDOS 8 application.

ZipGS CDEV: As with the standard text based Control Panel, the IIGS has another Control Panel that is available from any of the "Desktop Based" or GS/OS applications. Once installed, the ZipGS CDEV becomes an option in this Control Panel. This is an easy mouse-oriented method of modifying the ZipGS while running standard GS applications.

ZipGS Initialization: The ZipGS Initialization program automatically changes the current settings of the ZipGS to whatever you wish. By installing the ZipGS Initialization program onto a GS/OS bootable disk of your choice, you can automatically change any or all of the settings of the ZipGS to suit your needs for that program. The ZipGS Utility program is used to configure the ZipGS Initialization for each disk you install.

ZipGS Utility Program: ZipGS Utility Program is a stand alone application called ZipGS.Sys16. Launching this program allows simple mouse-driven operation of the ZipGS functions and can be placed in any folder you wish. To configure the ZipGS Initialization program, select the File-Open option. A new screen will appear displaying the current settings of the ZipGS, and will be automatically made by the Zip Initialization program. If the Zip Initialization program is not installed you will get an error message when trying to open the file. After making the change, save the file and exit the program. The changes will take effect immediately and will also be made in the Initialization program.

TROUBLESHOOTING PROCEDURES

It is very rare that the ZipGS will not work the first time, However...If your system does not power up, please try the following possible solutions:

- 1) Turn off the power
- 2) Check to make sure that all of the pins are straight and are making contact with the socket.
- 3) After checking the installation--
Turn on the power.

If your system crashes when you reboot, or a specific application fails to operate, please try another copy of your System Disk, (Version 5.0 or above,) and another copy of your application

Although very rare, one or more of your dip switches on the board may have changed position during shipping. Please check, and reset if necessary, your dip switches to their default settings, and try your board again.

DEFAULT DIP SWITCH SETTINGS:

<u>Switch #</u>	<u>SW1</u>	<u>SW2</u>
1	On	On
2	Off	Off
3	On	On
4	Off	On
5	Off	On
6	On	Off
7		On
8		Off

If you are still having difficulties, call our tech support line at 213-337-1734 between the hours of 9 AM and 4 PM Pacific time. We will be happy to do everything within our power to help you.

If the problem you are having can not be resolved over the phone, you may need to return the ZipGS to us for servicing. Please make sure to save your original package from your ZipGS so that you can use it to ship your ZipGS back to us. Please make sure to insure your ZipGS for the full purchase price.

UPGRADES

The ZipGS is the only GS accelerator designed to be easily upgraded in speed and cache size. Expanding the cache size will greatly enhance the performance of graphic intensive applications such as, desktop publishing, paint programs, CAD programs, and any "desktop based" software. Additionally, Increasing cache size improves the overall efficiency of the ZipGS, allowing all programs to run faster.

The second upgrade path allows you to increase the raw clock speed of the ZipGS up to 10 Mhz. Faster clock speeds greatly improve applications that do a large amount of math calculations such as the spreadsheets and database modules found in Appleworks, and Appleworks GS.

Your new ZipGS is capable of running much faster than the current limit of 10 Mhz. At this time, faster 65816 microprocessors capable of running at higher speeds are unavailable.

Upgrade kits are priced as follows:

To upgrade from 8K cache to 16K cache.....	\$19.95
To upgrade from 8K or 16K cache to 32K cache.....	\$49.95
To upgrade from 8K or 16K cache to 64K cache.....	\$99.90
To upgrade from 32K cache to 64K cache.....	\$49.95
To upgrade your ZipGS to 8 Mhz.....	\$29.95
To upgrade your ZipGS to 9 Mhz.....	\$59.95
To upgrade your ZipGS to 10 Mhz with 64K cache.....	Call

Zip will upgrade your ZipGS labor free. Just sent your ZipGS to:

***Zip Technology
5601 Slauson Ave. #264
Culver City, CA 90230***

When ordering, please include with your ZipGS a list of the upgrades that you would like installed.

If you have any questions please call us at 1-800-937-9737, we will be happy to assist you. Thank you for your purchase of our products!