ZipGS
Instruction Manual
for the ZipChipGS, ZipChIpGS Plus and ZipGSX

Model 1500 Model 1525 Model 1600

INTRODUCTION

The *ZipGS* series of accelerator products has been designed for easy Installation. Therefore, this manual will present the basics of *ZipGS* inser- tion and removal and will also include some or the configurations possible utilizing the DIP switches available to the ZipGSX board user.

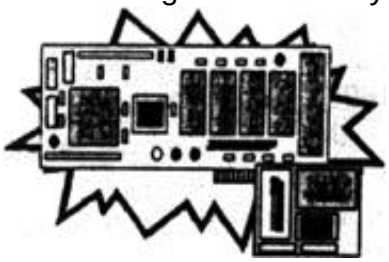


Fig. 1. The *ZipGS* series of accelerator products exist as a chip and slot based product.

The *ZIpGS* series come In three iterations- the ZipChIpGS (Model 1500) and ZIpChIpGS Plus (Model 1525), which are socket-only based and the ZipGSX (Model 1600). which is slot/socket based. All three Iterations follow a simple InstallatIon procedure (add a couple of extra steps for the ZipGSX) and require no software pre-booting. With that in mind, let's get to it!

INSTALLATION PREPARATION

Check your parts. You should have the ZipGS product, a 3 1/2 inch *utility* floppy disk, this paper manual and a small metal chip puller.

Fig. 2. Before attempting to disassemble your apple IIGS, PLEASE run the ZipGS HyperStudio™ stack Manual!!

BEFORE CONTINUING WITH THIS INSTALLATION PROCEDURE.

PLEASE FIRST RUN THE *ZipGS HyperStudio*™ stack Manual ON YOUR UTILITY DISK!

Note: The disk Is not a boot-up disk First boot your system and then run the RunMe.Sys16 program.

***REMEMBER:* MAKE AND USE ONLY A <u>COPY</u> OF YOUR UTILITY DISK!**

It contains Important information that will graphically help In the Installation of your *ZipGS* accelerator.

Please proceed with the disassembly of your Apple IIGS ONLY after you have carefully reviewed this visual material. THANK YOU!

AFTER USING GRAPHICAL MANUAL..

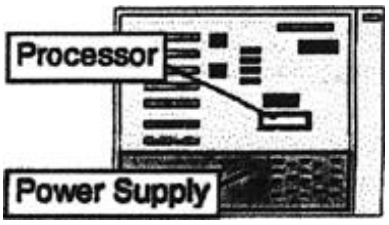


Fig. 3. To prepare for *ZipGS* insertion, first power down your Apple IIGS, remove the cover and touch the power supply to ground yourself.

Now that you are familiar with the step. Outlined In the *ZipGS* HyperStudio™ stack Manual, we will go over them again as we step-by-step Install your ZipGS accelerator.

STEP ONE- GROUND YOURSELF

BEFORE attempting to remove any static sensitive devices from your Apple IIGS computer (these include peripheral cards **AND** the 65C816), power down your computer, remove the cover and <u>touch</u> the power supply. ***DO NOT UNPLUG THE POWER CORD.***

STEP TWO - REMOVING THE PROCESSOR

First, find the chip silk-screened on the motherboard "CPU". Then remove any peripherals that hinder access to your removal of the 65C816 CPU.

Now, using the short end of your chip puller, ease the processor up from its socket. Be extra *careful* in inserting the chip puller between the CPU and the socket Make sure you are not between the motherboard and the socket instead.

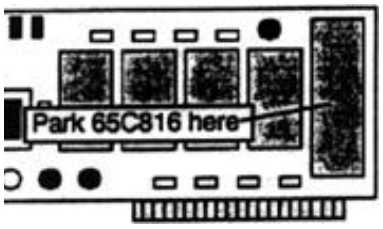


Fig. 4. You may park your original 65C8l6in storage if you have the appropriate product.

Now, wedge your chip puller back to put some space between the socket and the 65C816. Insert the chip puller longways between the CPU and the socket and carefully wiggle Out the CPU.

When the 65C816 CPU is loose on the top of the socket, use your fingers to hold the CPU at its long edges. Lift out the CPU and set it aside.

If you have the ZipChipGS Plus or the ZipGSX (or it you have the ZipChipGS with the DMA upgrade kit [Model 1501]), you can now place the processor in it's storage area on the slot card. This area is marked ORIGNAL 65816.

STEP THREE - INSERTION OF *ZipGS* PRODUCT

If you are installing a socket-only based *ZipGS* (Model 1500 or Model 1525), you will simply insert the accelerator into the now vacant processor socket. It will only seat in one direction. Make sure that all pins are straight and making firm contact in the sock-et by *carefully* putting pressure on the top of the accelerator above the socket. The *ZipGS* processor socket replacement pins are designed to stand up to a number of insertions BUT they can be BROKEN! *BE CAREFUL!*

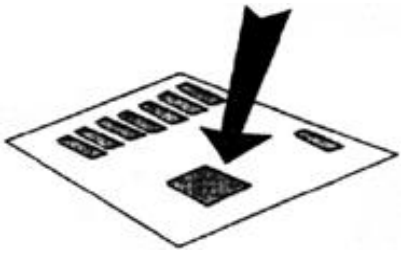


Fig. *5.* Once the *ZipGS* product is installed into the socket press firmly to insure good contact BE *CAREFUL* NOT TO BEND ANY PINS!

If your socket-only based accelerator includes a slot card (or you have the DMA up grade kit), you may place that card in ANY unused slot. As it does not "USE" the slot, the slots' built-in "INTERNAL" function can continue to be used.

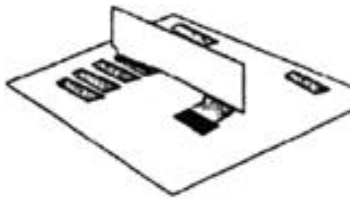


Fig. 6. The ZipGSX may reside in any unused slot(1 to4)on your Apple IIGS. it does not defeat the slots internal functionality.

If you are installing a slot/socket based ZipGSX (Model 1600), you will insert the header from the processor cable into the now vacant processor socket. Carefully insert the header and press firmly on the top of it to verify solid contact with the socket. Remember, though the header is designed for a number of insertions, **PINS CAN BE BROKEN!** ***BE CAREFUL!***

In choosing the slot in which the ZipGSX board will reside, here are some facts to remember. The cable length allows you to reach from slot 1 to slot 4 in your Apple IIGS. As the ZipGSX does not use the slots I/O register area, you may use an "INTERNAL slot for its position. The ZipGSX is designed only to take up one slot position width-wise, thus it will easily fit between two peripheral cards in adjacent slots.

STEP FOUR - POWERING Up

Once you are sure of the placement of your *ZipGS*, switch on the power and verify that your system comes up properly. If so, CONGRATULATIONS! You have just successfully installed your

ZipGS accelerator.

NOTE: Unless the *ZipGS* is disabled, it will, at times, tail the Apple IIGS internal test OBXXXXXX(as this test depends on 2.8 MHz speed). The *ZipGS* will also fail internal test **OCXXXXXX.** *THIS IS NOT AN ERROR.*

TROUBLESHOOTING PROBLEMS

If your system does NOT power up as before, simply power down and check that all the pins are making connection In the processor socket (and, if it is a ZipGSX, check that the slot fingers are correctly seated In the slot). Once you have checked that all connections are in place, again switch on the power and verify that your system comes up property.

At times the processor socket is too loose for the cable header. Be sure to press firmly on the header to insure good contact. If that does not suffice, simply bend one row of pins inward and reinsert. The header will now grasp at the sides of the socket to ensure connection.

If you must reinsert your original 65C816 CPU, be sure to point the *notched* side toward the *slots* (back of the IIGS).

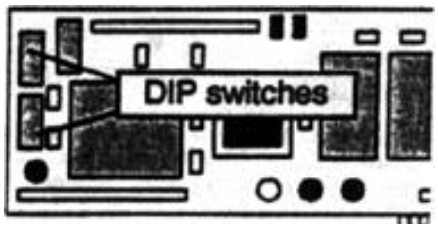


Fig.8. Set your ZipGSX DIP switches the way you like. That's what they're there for.

TECHNICAL SUPPORT

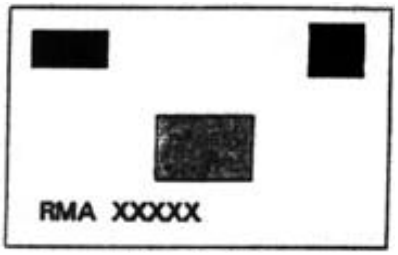


Fig.7. Make sure the RMA number is on the box when you send it!

If you continue to encounter a problem, contact Zip Technology Technical Support at (213) 337-1734 between the hours of 9AM and 4PM Pacific *Time.*

Have ready your *ZipGS* Model numbers and it's *serial number,* any upgrade model numbers installed on that *Zips* and their *serial numbers* and your Apple IIGS configuration (this Includes whether it is a ROM 01 or ROM 03 machine, how much memory is installed, the *peripheral cards* used and their *slot locations).* Give a concise error report to the technician as this will help him/her to solve your problem.

The serial number is located on the *non-component* side of the PC board (ZipGSX. Model 1600) behind the 650816 storage area.

You may also FAX this Information to Zip Technology if you choose (remember, all the above information [Model numbers, serial numbers and your Apple IIGS configuration] must accompany the **FAX** *including* the purchase invoices]). Zip Technology Technical Support will do it's utmost to answer FAXs In a timely manner. The FAX number is (213) 337-9337.

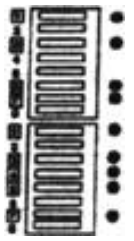


Fig. 9. The ZipGSX DIP switches are numbered and defaulted for your convenience.

RMA PROCEDURE

If all else fails, the technician will give you an RMA (Return Merchandise Authorization) number. Package up the ZipGS product which Is not functioning in It's original packaging, Including a copy of your Invoice. Address the package to Zip Technology (always Include a return address on the outside of your package) with your RMA number nearby and, to protect your investment, send your package *Insured.*

ZipGSX DIP SWITCH CONFIGURATION

The ZipGSX has two *DIP switches* onboard that allow the user to configure his or her own custom power-up *ZipGS* parameters.

This section will describe each switch, the *ZipGS* default setting for It and why you may wish to change it.

Let's start at the top left-hand corner. Look for the DIP switch marked SW1. A little lower there is also a DIP switch marked **SW2**. On the left-hand side of each DIP switch there will be numbers starting at 1, going to 8. On the right-hand side of the DIP switch there will be dots coinciding with the Zip Technology ON default. From now on the designation will be, for example, SW1/1 to describe *DIP switch #1/position #1*.

SW1/1 - Cxxx/Dxxx cache disable.
The *ZipGS* default is ON (option disabled). If a program flips a 65C816 bank between "shadow" and "non-shadow" in this address area, it is possible to confuse the cache memory. Simply set this switch to the **OFF** position if you wish to power-up with this option. **THERE IS NO KNOWN SOFTWARE REQUIRING THIS SWITCH CHANGE**.

SW1/2 - Joystick Delay.

The *ZipGS* default is **OFF** (option enabled). If a program continually accesses the paddle registers (even when it's not being used) and you don't use the paddle, you can set this switch to the ON position to defeat at power-up the unneeded delay.

SW1/3 -AppleTalk Delay.
The *ZipGS* default is ON (option disabled). The AppleTalk Delay causes a delay during interrupts required for compatibility with the **AppleTalk network** If you wish compatibility with that network on power-up, simply switch it to the OFF position (and, depending on full system speed, adjust processor speed percentage).

SW1/4 - Counter Delay.
The *ZipGS* default is OFF (option enabled). This option, when enabled, allows the Apple IIGS internal test **05XXXXXX** to pass. It simply creates a delay whenever the horizontal counter register is accessed. To disable this delay, flip this switch to **ON**. But be aware that the Apple IIGS internal test *will* **FAIL Test O5XXXXXX!**

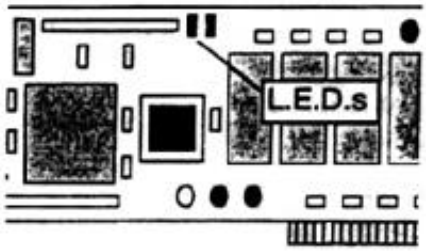


Fig. 10. The ZipGSX inc1ude two diagnostic L.E.D.s. Use them to verify access to power and program caching.

SW1/5 - CPS Follow.
The *ZipGS* default is **OFF** (option enabled). This option controls whether the *ZipGS* will disable whenever the Apple IIGS goes to 1 MHz mode. When this switch is set in the ON position, from power-up the *ZipGS* will continue to function at system speed when the Apple IIGS is at the **1 MHz** mode.

NOTE: lf this option is *disabled,* either at power-up through its DIP switch or through software, you will not have the use of the open or closed Apple keys at power-up or reset.

WARNING: floppy drives will not function properly when this option is disabled.

SW1/6 Disable.
The *ZipGS* default is ON (option disabled). This option controls ,whether the *ZipGS* will power-up disabled. If you, for some arcane reason, wish to power-up in slow mode, simply flip this switch to the OFF position.

SW1/7-8 - Cache size.
Here are the cache sizes and their respective **SW1/7** and **SW1/8** positions.

Cache size	**SW1/7**	**SW1/8**
8k*	**ON**	**ON**
16k**	**ON**	**OFF**
32k	**OFF**	**ON**
64k	**OFF**	**OFF**

* ZipChipGS as shipped.
** ZipChipGS Plus/ZipGSX as shipped.

Note: *Unless you actually increase the cache size* DO NOT *change these switches.*

SW2/1-7 controls the delay disable/enable of the seven slots on your Apple IIGS. In our compatibility list

(and of manual), mention will be made if a particular peripheral or program requires a "*slow*" slot. **SW2/2** and **SW2/6** are defaulted to the off position (delay enabled). All the rest are defaulted to the on position. (delay disabled)

SW2/8 – Speaker delay
The ***ZipGS*** default is **off** (delay enabled). Change if you wish.

DIAGNOSTIC L.E.D.S

Both the ZipChipGS Plus and the ZipGSX (and the ZipChipGS with the DMA upgrade kit) Include two diagnostic L.E.Ds. One is a red power L.E.D. It is lit when the ***ZipGS*** is getting power, simple as that. The other is what is sometimes called the "anti-caching" L.E.D. It glows ***brighter*** as more accesses come from your Apple IIGS and glows ***dimmer*** as more accesses come from the ***ZipGS*** cache memory. This yellow L.ED. is a good visual guide as to how effectively the ***ZipGS*** is accelerating your software.

SUPPLIED SOFTWARE

Note: No software is required for the ***ZipGS*** to function. The supplied software simply gives the user information on the ***ZipGS*** and control over it's options.

As of the release of the manual version mentioned in the page number area, the supplied software consists of the visual Instruction manual, installation scripts and the ***ZipGS*** control programs (CDA/CDEV/App/INIT).

The CDA Is very straightforward - once installed, the CDA reflects the current status of the ***ZipGS*** and can effect real-time changes to it's internal registers.

The CDEV is a control-panel version of the CDA software. All Information and control provided by the CDA can also be had through the CDEV.

The Applications program (Sysl6) has the same control that the CDA and CDEV have *PLUS* it can alter the characteristics of a INIT supplied with your software. To load the status of the INIT, simply OPEN from the FILE pull-down window. The current settings of the INIT will now become the system's current settings. You can edit these settings and resave the parameters to the INIT through the SAVE command In the FILE pull-down menu.

REMEMBER: The INIT will supercede the DIP switch settings automatically on power-up. Also, any ***ZipGS*** register adjustments (option changes to the layman) made during the current session will be brought to INIT defaults if you reset and the INIT is able to run. If you do not wish this feature, simply delete the INIT or deactivate Its functioning.

An NDA is planned for the ***ZipGS*** series but not implemented at this time.

WARRANTY INFORMATION

The ***ZipGS*** accelerator series carry a 30 day money-back guarantee and a 1 year warranty against manufacturing defects.

AS Zip Technology is constantly working to improve it's products, it may perform warranty replacement with a later version of the product.

All express and implied warranties for this product, including the warranties of merchantability and fitness for a particular purpose, are limited to product replacement only. No other warranties, whether express or implied, will apply.

If this product is not in good working order, your sole remedy is replacement as stated above. In no event shall Zip Technology be liable to you for any damages. Including lost profits, lost savings or other incidental or consequential damages arising out of the use or Inability to use this product.

Any alteration to the ***ZipGS*** (such as cache size or processor speed adjustments) without the use of Zip Technol-

ogy supplied parts voids above warranty.

COMPATIBILITY LIST

Note: All hardware and software tested has proved compatible. We, however, don't have the time nor resources to test EVERY hardware/software combination available to the Apple IIGS.

Any special option settings will be mentioned in this area.

Here we go, **hardware** first;

Apple II 1 meg memory card
Apple IIGS 1 meg memory card
Apple II High-Speed DMA SCSI card
Apple II Revision C SCSI card
Apple Video Overlay card (GenLock)
Apple Super Serial card
AppleDisk Il/Apple 3.5/Apple Unidisk
requires CPS Follow and/or specific slot slowdown
Apple AppleTalk network
requires AppleTalk delay and 87% speed at 8 MHz

AE 1 meg RamFactor card
AE RamKeeper card
AE Sonic Blaster
AE Audio Animator
AE PC Transporter
AE Vulcan harddrive/controller
AE Parallel Pro
AE TimeMaster HO clock
AE GS RAM memory card series

CV Tech RamFAST caching DMA SCSI card
OKS MultiCache caching disk controller

Ingenuity GS Juice+ 4 meg card Ingenuity lnnerDrive/controller

Corvus Omninet network
Corvus standard harddrive/controller

MicroSoft CP/M card
CPS MultiFunction card
GreyMatter harddrive/controller
Epic Classic II 2400 baud modem
Vitesse Quickie scanner

S &S 4 meg RAM card
FCP Sider II
ComputerEyes video scanner
Chinook IIGS 4 meg RAM card
AST Vision +

ThirdWare Fingerprint GSi
NicePrint Parallel card
Orange Micro Grappler +
Epson APL Parallel printer card

And here comes the ***software:***

All Apple IlGS System software thru 5.0.4

All known CDAs/NDAs/CDEVs/INITs
Apple America Online
Apple HyperCard GS

SynthLab

Claris AppleWorks/AppleWorks GS
Beagle Bros TimeOut series (all)

RWP HyperStudio (plus digitizer)
RWP Merlin 8/16+

Vitesse Harmonie
Vitesse Salvation series (all)
Glen Bredon's ProSel/ProSel 16

EA Deluxe Paint II
ActiVision PaintWorks+ / PaintWorks Gold
Broderbund PrintShop

Graphic Writer Ill
TimeWorks PublishIt! series
Milliken Medley
Springboard Publisher

WordPerfect
StoneEdge Tech DBMaster

FutureSound (plus digitizer)
Music Studio
SynthLab

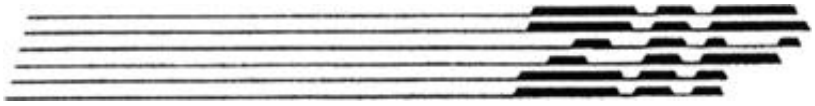
Orca C/Orca 1.1 Shell
APW Shell/ECP 16

Shrinklt and ShrinkItGS America Online

ZZCopy
Requires slot 6 slow

This list is by no means complete. This section will be updated as this manual is revised.

Enjoy your *ZipGS.* The time is right for *ZipGS* as, according to **Zip,** time is of the essence...



T E C H N O L O G Y

5601 West Slauson Avenue
Suite #190
Culver City. CA 90230

(213) 337-1313
Tech (213) 337-1734
FAX (213) 337-9337