IN THIS ISSUE:

WRITER'S BLOCK

In the past few months, a great many readers have called or written because they are worried that they are missing issues of *GS+* Magazine, or that we are going out of business, because they are receiving their magazines later than they expected. Well, let me assure you that we are not going out of business. We will continue to provide IIGS users with the most useful and informative publication that we can for as long as we can.

However, to clear up all of the confusion, perhaps I should explain our present publishing/mailing schedule. Since we are a mail-order-only magazine at this time, we choose to print cover dates on each issue that are indicative of *when the material was actually published*. Most "normal" publishers rely on the newsstands to sell a large portion of their magazines, so they choose to print dates on their magazines that allow them to stay on the newsstands longer. This usually means that an issue published and appearing on the newsstands at the end of September or beginning of October will have a November cover date. But since we do not appear on the newsstands, an issue of *GS+* Magazine that is published at the end of September or beginning of October will have the date September/October 1990 on the cover.

In addition to all that, we have to use the facilities of the United States Postal Service to send out our magazines. This means that it usually takes 2 to 4 weeks for our magazines to reach their destinations. The best case I have seen is one week, and the worst case I know of is 8 weeks. (Just to give you an idea of the kind of delays we are dealing with, consider this: when I mailed out *GS+* Magazine V2.N1 on October 10, 1990, I included a copy that was addressed to myself. I received that copy on November 3, 1990.)

While one week is acceptable, 8 weeks certainly is not. So, in response to requests that several of you have made, we have begun to offer *optional* First Class

delivery of *GS+* Magazine. For an additional cost of $1.50 an issue ($9 for a full one year subscription), we will put your copy of *GS+* Magazine in an envelope and mail it to you via First Class mail. First Class subscriptions will be sent out before any other magazines. The cost covers the actual postage ($1.25 for a typical issue) and the cost of materials (about 15¢, I think) with a few pennies left over to pay for the time we spend stuffing the envelopes. If you wish to take advantage of this service, send us a check or money order for the appropriate amount ($1.50 times the number of issues left in your subscription) and we will send out your next issue of *GS+* Magazine First Class. Note that this option does not appear on the order form on the current mailing cover (they went to the printer before we finalized all of this). But, if you write "First Class" on the order form and add the appropriate amount to your payment, we will know what you mean.

And, finally, we are trying to get our publication schedule moved up to a point that there will be less confusion over the cover dates. The next issue of *GS+* should go out the first week of January. This will put our publishing schedule back where it should be and, hopefully, alleviate any concerns that you may have.

Finally, here are three things you can do to help us pull all of this off:
1) Check your mailing label. If there is an error in your address or expiration date, *let us know*!
2) If you know your 9-digit zip code, tell us what it is. I can't promise anything, but the Post Office is always telling us that if everyone used their 9-digit zip code, things would move faster. Let's put it to the test. (If you don't know what your 9-digit zip code is, ask your post office and they will tell you.)
3) If you think you've missed an issue of *GS+* Magazine, don't sit there and stew, *let us know*!

And Now . . .

On October 15, 1990, Apple Computer,

Inc. introduced three new Macintoshes. Since then, several readers have called for my opinion of these machines and my views on the future of the IIGS. Almost all of these conversations start out with, "Steve, I don't want to sell my IIGS, but . . ."

First of all, my opinion is that the Macintosh Classic and Macintosh IIsi are nice computers. The Macintosh LC—and it's IIe emulation card—is, as I write this, vaporware and should be treated as such. The Macintosh Classic has a very good price, but it is too slow. The IIsi is, typically, overpriced. With the exception of the Classic, these are not home computers. End of opinion.

Now let me ask *you* a question: *why* does the introduction of these new machines immediately mean that you have to sell your IIGS and buy another computer? Do you sell your old car every year when the new models come out? No. Do you get ticked off when the new models come out? No. Would you sell your car if they discontinued it? No. (This is just an example folks. Despite all the rumors you have heard, the Apple II has *not* been discontinued!) If you are like me, you would drive it until the engine explodes. As with a car, the only reason to sell your IIGS would be if it does not do what you want it to do. And, if you have come up with something you can't do with your IIGS, you probably have not looked hard enough for a solution.

So, before you sell your IIGS and rush out to get a loan and buy that new Mac, PC or NeXT, ask yourself this, "Why did I buy a IIGS?" Are those reasons still valid? If they are, relax and get down to the business of *using* your IIGS to do what you bought it for. If not, stop complaining about what the IIGS *can't* do, and take the time to explore all the things that your IIGS *can* do. By the time you get finished, Apple will probably have announced three *more* new Macs.

Diz

CONTENTS

STEVEN W. DISBROW
Publisher, Editor

NOREEN RIBARIC
Associate Editor, Layout

JOSEF WANKERL
Contributing Editor,
Programmer

ARTICLES

PROGRAMS

REVIEWS

DEPARTMENTS

LETTERS

Dear *GS+*,

I bought your EGOed program and like it very much with two small caveats. First of all it takes up an awful lot of memory, and once while I was trying to deselect a font change I hit the "Return" key instead of the mouse and kerplooey! It erased the entire contents of the file while leaving the file itself intact, just empty. Is that right? Also, how do I keep current with updates or revisions to EGOed?

Saul W. Nathanson
Charlotte, NC

To answer your last question first: the easiest way to keep up with EGOed revisions is to subscribe to GS+ with disk. The latest version of EGOed is always on the GS+ disk. We do this so that we don't have to worry about folks having a text file reader, but it has the added advantage of providing subscribers with constant updates to EGOed.

In regard to the problems you had, the sad truth is that this is the way Apple has decided that text editing should work. If you have text selected (a single character or an entire file) and you begin to type, the selected text is replaced with what you type. The obvious solution is to put an Undo command in EGOed, but that would make EGOed even bigger!

Dear Steve,

I read the review of Salvation: Exorciser in your July/August issue (*GS+* Volume 1, Number 6) and boy am I glad I did.

After reading the review, and *only* because of the review, I bought the program through Roger Coats (best price I could find).

The day I got it, I tested all of my disks, and unbelievably (to me anyway), it showed that one of them was infected with the Lode Runner virus. (It was the support software that came with a piece of used hardware I had recently purchased). I had several conversations with Vitesse customer support (the gentleman's name was John, I believe) because I didn't believe it was really there, but sure enough, Lode Runner was present on the disk. I cannot tell you how helpful and informative those conversations with John were in giving me an understanding of the product, and how it performs its tasks.

Not only does the program work as advertised, but it's so easy to use, and so fast, that it was a breeze to check all my software for potentially nasty code.

Reading your publication, combined with the great Vitesse support, saved me a great deal of headaches. Both *GS+* and Vitesse have my thanks. You for producing a great magazine, and Vitesse for producing a great piece of software followed up by first class customer support.

Greg Zimmerman
Scottsdale, AZ

Glad we could help! Of course, most of that thanks should go to Dino Bagdadi for writing such a great review. Thanks Dino.

Dear Diz,

I subscribed to your *GS+* Magazine, primarily, because I have an innate love for the Apple II, particularly, the IIGS. I reasoned that a periodical written for, by, and with a IIGS deserved my support. I particularly enjoyed the experience of ordering, and receiving, my subscription via ProLine (as an Apple II organ.)

I have some problems with your apparent love affair with the Finder, and "compatible" stuff. I use and enjoy ProSel. As far as I'm concerned, ProSel is the best thing that happened to the Apple II since sliced bread. The recent stuff with regard to launching BIN and

EXE files [*The Molehill* in *GS+* V2.N1] is passé, as far as I'm concerned.

[Regarding] the review of Salvation: Wings, [as it] compares to the Finder—ProSel [by Glen Bredon], at sixty bucks, provides *more* than the *entire* spectrum of the Vitesse stuff, and does it better (unless you enjoy the Human Interface garbage encouraged by Apple Inc., which imitates the Mac).

[Also,] ProSel will read your TeachText files (even if AppleWorks will not.) Why in hell would you insert funny text files anyway? Get real, man! Obviously, you're trying to push EGOed.

Garth Shultz
Kalamazoo, MI

Our "love affair" with the Finder is the result of a great many things. First and foremost, it is a great program. Second, and most important from a publisher's point-of-view, the Finder comes with every IIGS. Thus, we can be sure that all of our subscribers have a copy. We don't have the same guarantee with ProSel.

A great many of our readers swear by ProSel and I have no doubt that it is an excellent package. On several occasions, we have reviewed products that, in one sense or another, compete with ProSel. When it was appropriate, I have stated very clearly that I have no experience with ProSel and I have asked for comments regarding ProSel's performance versus those products. If there is someone out there that can give me a fair, and unbiased review of ProSel, I'll publish it.

You state that I am trying to "push" EGOed by including TeachText files on the GS+ disk . . . well, obviously, I do have an interest in people buying and using the programs that I publish. However, I certainly don't feel that I am trying to "push" EGOed on anyone. One of the reasons I wrote EGOed was

so that we could include text files on the GS+ disk without having to worry about everyone having a program that could read text files. So, EGOed has appeared on every GS+ disk since it was published. Along the way, people asked for a way to save font and style information. When Apple announced a standard that was usable (the TeachText standard), I added it to EGOed. Now, if we put TeachText files on the disk and did not include EGOed, that would be stupid and you would have every right to be angry. But, since we put EGOed on every GS+ disk, why in hell not use TeachText files?

I really can not agree with your comments describing EXE Launcher as "passé." Joe wrote (and I published) EXE Launcher to help make the Finder even more powerful and useful than it already was. Since when has it become "passé" to add value to something that 100% of your customers own?

As for our fascination with programs that follow the Apple Human Interface Guidelines, we are guilty as charged. One of the reasons I started GS+ Magazine was because I was sick and tired of everyone saying, "it's just another Apple II." Like it or not, the entire computing world is rushing to embrace Graphical User Interfaces (GUI, pronounced "gooey") like the one the Macintosh pioneered. By focusing on desktop programs, we hope to make it easier for our readers to use not only their IIGS, but also the Macintosh, Microsoft Windows, SUN, Atari ST, and Amiga computers that they may encounter. We make it a point not to "bash" other computers, but to point out the similarities between these computers and the IIGS. If you are comfortable using desktop programs on the Apple IIGS, you should be able to sit down at any computer that has a GUI and be productive. Is that a bad thing?

Remember folks, there is nothing wrong with the sentiment "Apple II Forever!" But, if we have our heads in the sand while we say it, all we will do is suffocate.

Steve,

I received my copy of GS+ Magazine today. I was quite disappointed with your review [of Salvation: Wings]. In particular, your statement that "$80 is an unrealistic price." I fear that if this is the attitude of the average Apple II user, we may soon see an end to the Apple II market.

[Lot's of confidential stuff detailing the cost of materials, support, etc. - Ed.]

Your article pointed out several things that you believe are inadequacies in the program. That's your opinion, and it's expected that your review would be based on your preferences. When you say that $79.95 (suggested retail price) is simply unrealistic, I must object.

Vitesse has invested [an amazingly large amount of money! - Ed.] in the Apple II market this year while many other developers are jumping to the Macintosh or IBM-PC markets. We have developed more new Apple IIGS products this year than any other developer out there.

Let me reiterate: I find no fault with the expression of your opinion as to what the program should be. I hope now that you understand that our pricing is based on [our production] cost and [other factors].

Jim Carson, President
Vitesse, Inc.
La Puente, CA

My review of Salvation: Wings is, without a doubt, the hardest review I have ever done. On the one hand, Wings is an amazingly powerful package that can do just about everything you would want it to do. On the other hand, it has a number of quirks and a blatant disregard for one of the more important concepts in Apple's Human Interface Guidelines (Wings works in "modes"), that can make it difficult to use at times. I believe that my review very clearly stated the power that Wings provides. I also feel that I was more than fair in my treatment of the things I, personally, found to be "wrong" with Wings. Not only did I

discuss these things, I suggested ways to improve them. Believe it or not, I was trying to provide constructive criticism.

Finally, you have quoted me out of context. What I said was:

"Let's face it, the Finder was, for all intents and purposes, free. It came with your IIGS. Add a few choice NDAs (EGOed, ShowPic, Background Music, Find File, etc.) and you have most of the utilities that are in Wings. And, since they are NDAs, they will be available from every desktop program you run, not just the Finder! Although Wings is worth every single penny, $80 is simply an unrealistic price when faced with that sort of competition. [Emphasis added.]"

I believe that the attitude of the average Apple II user is that they want to get absolute maximum value from the money that they put into their computers. That's why we print reviews and that's why I wrote that last paragraph. This is not an attitude that will cause an end to the Apple II market; indeed, it should help to keep it very much alive for quite some time to come.

If you have a question, comment, or criticism about GS+ Magazine, we want to hear it! Please note that due to space limitations, we cannot answer every letter here in GS+ Magazine. If you want a personal reply, please enclose a self-addressed, stamped envelope (or a phone number and the best time to call). Please address all letters to:

GS+ Letters
P. O. Box 15366
Chattanooga, TN 37415-0366

INTERVIEW WITH BILL HEINEMAN

By Brian M. Winn

The first time I heard of Bill Heineman is when Bard's Tale was released for the Apple II in the early eighties. Since then, he has come to be a household name in the computer gaming world. He has single-handedly set many of the standards for excellence in computer game programming.

Bill is a programmer that dared to be different. He began his programming on the Apple II and has stuck with it since then. Bill remarks, "I really don't like to program other computers—my first and foremost priority is for all the Apple II and IIGS users out there who have helped me in my early years." Bill's most recent game project was the writing of Dragon Wars for the IIGS. In this game, he has taken advantage of the IIGS's graphics, animation, and musical abilities.

The following interview was conducted with Bill Heineman in November 1990.

GS+ When did your interest in programming begin?

BH I have been programming computers since 1978 with my Apple II, (Not II+, this was before then).

GS+ From this time to present, what has happened in your programming career?

BH Many things have happened in my career which spans 12 years. From working with Atari VCS games to VIC-20, C-64, Apple II, IIGS and IBM PC software and now I am working on Nintendo Gameboy and Super Famicom (A 65816-based Nintendo, Apple *should* take notes).

I have written many games, like Bard's Tale I, II, and III, Crystal Quest, Dragon Wars, Battle Chess, Neuromancer, Tass Times in Tonetown, Mindshadow, Tracer Sanction, Time to Die and many others.

GS+ How do you go about formulating an idea and then developing it into a complete product?

BH In the old days, it was one programmer, one program. Now everything is done by committee. A professional game designer, such as Mike Stackpole (BattleTech, Tunnels and Trolls), would design the maps and game story line. I would come in and breath life in the form of a computer program. A graphic artist such a Todd Camasta would then draw the images found in the game to give it some look of realism or a "cartoony" feel depending on the mood of the game. A sound person then would compose the music (and sometimes even program it too) to finish up the game. Playtesters would beat the game senseless trying to crash it, then the testers would play the game again on a ROM 01 IIGS, ROM 03 IIGS, IIGS with 1 drive, IIGS with 2 drives, IIGS with hard drive and so on. Then a marketing person would write the manual and create the box and then we have a finished product.

GS+ What do you think of the Apple IIGS as an overall personal computer?

BH I think the Apple IIGS is an underrated computer. When people are shown the true capabilities of the machine they seem awestruck because they were told by virtually every magazine that the Apple II is a toy. I have even written IBM software using the IIGS as a host computer and the PC as a slave (the natural order of things). I just am saddened by the amount of absolute ignorance there is concerning the Apple II line.

GS+ In your humble opinion, what is the current state of the IIGS game market?

BH The current state of the Apple IIGS is grave. Piracy is murdering the already low software sales of IIGS software. "Macintosh Inc." is not helping with their ignorance of their own product line and IBM is engulfing all. Apple *must* release the ROMs and license the motherboard to anyone who wishes to clone Apple's products, and this includes the IIGS and the Mac, if Apple wants to be a mainstream computer company. Otherwise the IIGS and the Mac will be nothing more than niche computers that will be around forever but never become the dominant computer. Clones are what made the IBM PC what it is today. Clones can help put an Apple II in everyone's home.

GS+ Tell me a little about the Apple IIGS version of Dragon Wars.

BH Dragon Wars for the IIGS uses the artwork from the Amiga version and the main code from the Apple II version. Of course I redid a lot of code so that it can use resources, windows and desk accessories. Dragon Wars GS is what a IIGS game should be. My main hope is that it will sell enough copies so I can convince my boss to let me do another IIGS title. Sales are flat across all machines so most companies are only doing MS-DOS titles to ensure market share. Dragon Wars uses MIDISynth for all music (3 songs) and has full 16 color 320 x 200 graphics that I hope will enhance your role-playing experience. It is set in the land of Dilmun where city-states are protected by fierce dragons but one-by-one all the Dragons are either going stupid or wild. You must find the cause of the problem while also escaping the prison city of Purgatory. And this is only the beginning . . .

GS+ What can IIGS owners expect from yourself and Interplay in the near future?

BH You can expect more titles from Interplay for the IIGS, alas the Apple II with 128K and double hi-res is just too limiting to do the games we plan on doing. If the opportunity arises for a game that will translate well to the IIe then we will do it. For the IIGS we will only port over our most popular titles but definitely not all. It's just that IBM is over 80% of the market and we are

devoting 80% of our resources to that. The other 20% is divided amongst the Amiga, IIGS, and certain Japanese computers. We are also doing 1 Mac game, but sales on the Mac for games are worse than the IIGS.

GS+ Why are so many IIGS games written to run under ProDOS 8? Are programmers afraid of GS/OS? Or are they just lazy?

BH Even I am guilty of the horrible crime of writing software for the IIGS in ProDOS 8. The problem was that early on, Apple wanted developers to use APW/ORCA to write GS software and I wanted to use Merlin. Merlin wasn't available for GS/OS back then so I had to use ProDOS 8. Also the Toolbox before System Software v5.0 really stank and you had to be crazy to write games under ProDOS 16.

Today I have repented. I wrote Crystal Quest, Dragon Wars and rewrote Tass Times in Tonetown to be GS/OS compatible and all future titles will also be this way. GS/OS commands a high price though in the form of an operating system that takes 512K and almost an entire 3.5-inch disk just for GS/OS. Dragon Wars GS *does not* auto boot because there was *no* room for GS/OS on the disk.

I hope that people will understand that the time has come that programs will no longer auto boot and that they have to be launched from a system disk. This was the only way to cut costs and keep the price low for IIGS software. (Of course, stopping piracy would help.)

GS+ Tell us about the unique way you used your IIGS to create Dragon Wars for the IBM. Do you plan to make any other games in this manner?

BH I used a PC Transporter (PCT) to run the IBM assembler MASM to create the actual code for the game. The source code was created and edited in Merlin from Roger Wagner Publishing and several special command line EXE files were written so I can send my source to the PC Transporter and have it assemble the code

while I was still in Merlin. I then use the PCT to run the code and debug it using the Apple IIGS control panel to stop the PCT when I had a bug. It helped a lot that I could look at IBM memory at will while my program was running. The artwork was drawn on an Amiga and ported to the IIGS for final editing using DeluxePaint II from Electronic Arts. I then used special command lines to cut out the graphics and I had a utility on the IIGS to create the DATA1 and DATA2 files for the PC. Those files were exclusively made on the IIGS. The IBM had nothing to do with them. I then placed all the files on IBM formatted 3.5-inch disks with the PCT and presto—an IBM game with a IIGS as host!

Apple II, the power to best IBM.

GS+ What led you to design the 24-pin and laser printer drivers present in Harmonie (sold by Vitesse, Inc.)?

BH The Harmonie drivers was a natural product since Apple Computer, Inc. released terrible documentation on how to write a printer driver and then had the gall to say that it would only take 6 weeks to write one. Also, the original ImageWriter driver before System Software v5.0.3 was a total joke and people were claiming that the IIGS was the reason for slow printing and not the driver.

I wanted to change that opinion of the IIGS and show that all it takes is some good programming (and a lot of luck) to create a full line of printer drivers so that users of the Apple IIGS no longer have to shell out big $$$ to buy an Apple brand printer just to get output. I wanted to give users a choice. Now you can go to any computer store and buy just about *any* printer and be assured that Harmonie will allow you to get your full value from your printer. Also, you can now show those Mac-Philes that the IIGS is as good as the "M" word.

GS+ What can you foresee Bill Heineman doing in the next five years? Will it include programming the Apple IIGS?

BH In the next five years, I will still be using my IIGS to create new games. Alas, if Apple doesn't change its course I may be baby-sitting all these ex-Mac owners because Apple Inc. went out of business. I will still write software for the IIGS until there are no IIGS's in existence. Career-wise, I'll probably be writing software for Nintendo machines and whatever new game machines are out in the market. I may have a 386 PC Transporter and a Mac emulator for my IIGS so I can protect my investment but I will also have to spend some time with my daughter teaching her and showing her the wonders of the IIGS and still showing people how this "toy" can be more capable and more user-friendly then their cold blue machines.

GS+ How in the world did you get the nickname "Burger Bill?"

BH I got the "Burger Bill" because I ate a 7-hour-old hamburger at work and made some people sick. I always chanted "Burger" when it was lunchtime and my boss said that he would chop my head off if I said "Burger" one more time. Well, have you seen the famous "Burger" picture on many of my games?

EPILOGUE
As you can see, Bill Heineman is very enthusiastic about the Apple IIGS. He knows what it can do, and how to make it do it! We are very lucky to have such a talented programmer creating software for the IIGS. Please support Bill's efforts by purchasing his software!

We would also like to congratulate Bill and his wife Lori on the birth of their new daughter, Cynthia Elizabeth! (8 lb 1 oz, 20 1/2", born 10/18/90 at 10:38 a.m.) If you would like a pink bubble gum cigar, you can contact Bill at:

Interplay
1575 Corporate Dr.
Costa Mesa, CA 92626

BEGINNER'S GUIDE TO SYSTEM DISKS

Part III - The Installer
By Joe Wankerl and Steven Disbrow

Perhaps the least used portion of IIGS System Software is the *Installer*. The first place you are likely to encounter the Installer is on the IIGS **System.Tools** disk. Since IIGS System Software is becoming more complex with each release, a utility such as the Installer is needed to ensure that users have a means of quickly, easily, and correctly installing these updates. In this final installment of the "Beginner's Guide To System Disks," we'll find out what the Installer is all about and how to get the most out of it.

What It Is
The Installer is a utility, written by Apple Computer, Inc. and (initially) provided on the **System.Tools** disk of each IIGS System Software release, that allows software publishers to provide users with an easy way to install their software. Instead of forcing users to copy files using the Finder or some other utility, the Installer allows publishers to automate the installation process by the use of *Installer scripts*. These scripts contain instructions that tell the Installer which files need to be copied and *where* they need to be copied to.

Since Apple stresses using the Installer so much, EGO Systems has licensed the Apple IIGS System Software for use with *GS+* Magazine. On this issue's disk you will find the Installer along with several Installer scripts that will allow you to quickly and easily install the software on the disk. For more information on this change, be sure to read, "How To Use The *GS+* Disk" on page 22.

How To Use It
Using the Installer is simple. Let's say you want to install the EGOed update which is on this issue's disk. After starting up your computer, insert the *GS+* disk into a drive and run the Installer. It is important to remember that the Installer only recognizes the scripts that are in the **Scripts** folder on the disk that it is run from. So, in this case, it is very

important that you run the Installer from the *GS+* disk and not from your **System.Tools** disk!

When the Installer window appears, you will see, on the left hand side of the window, a list of the scripts that are on the *GS+* disk. The Installer refers to these scripts as *updates*. On the right hand side of the window is an icon showing the name of the disk or folder that will be the target of the installation. Below this icon is a list which, for updates that can go in a folder of your choosing, will show all of the files and folders in the target directory. Since the EGOed update can only go in the **System:Desk.Accs** folder of your boot volume, this listing will be empty.

Now, since EGOed is the first update shown, it should already be highlighted. When you first start the Installer, the default target disk for updates is your boot disk, so that should be the disk that appears in the right hand side of the window. So, all you have to do at this point is click the "Install" button. The Installer will then begin copying the appropriate files from the *GS+* disk to your startup disk. If necessary, it will prompt you to swap disks when needed. That's all there is to it.

One quirk about the Installer is that when you install files into the ***:System** folder, the Installer will force you to restart your computer when you try to quit from it. So be sure you do all of your updates at one time.

Why Use The Installer?
Only a few days ago, Apple Computer, Inc. released Apple IIGS System Software v5.0.3. This update comes on two 3.5-inch diskettes. Since there are numerous enhancements in this new version of the System Software, you will probably want to take advantage of it as soon as possible. So, when you finally get your copy of System Software v5.0.3, how do you best take advantage of it? Well, if you don't have a hard disk, what you will

probably want to do is just make a backup copy of the new **System.Disk** and just start up your computer with that. However, if you are using a hard disk, you probably have a need for several of the files on both disks. But, which ones do you copy for your particular configuration? For example, *where is* the new driver file that will let you use your 3.5-inch UniDisk drive? You can spend a few minutes searching both of the update disks and copy over the file when you find it . . . but, is it just *one* file? Even if it is, *where* does that one file go? The Installer knows the answer to all these questions.

Suppose you don't care about any of that UniDisk junk. You just want to get the new System Software on your hard disk as quickly as possible. Which files do you copy? Which files do you delete? Are you sure?

Speaking of copying files, do you have to use the Finder? Will Copy II+ do the job? What if some of the files in the update are those silly "forked" files? Copy II+ can't handle those!

The Installer, by the use of script files, knows which files to copy and which to delete. If you were to do all of the copying by hand, there is a big probability that you'd forget a file and your system wouldn't work like it should. The Installer, on the other hand, will follow the instructions that it finds in the script file and copy everything needed. The Installer also knows how to copy files with resource forks, so you don't have to worry about that. Also, by automating the file copying procedure, you no longer have to figure out *which* files to copy or *where* to put them. All you have to do is select the update you want to install, select the disk volume you want to install it on, click the "Install" button, and swap disks when you are asked to do so!

Taking A Hint
In the year or so since the Installer was first introduced to the IIGS community, I

have heard several dozen people ask Apple representatives the question, "Why doesn't the new System Software work for *me*?" In each case the reply has been, "Did you use the Installer?" If you don't use the Installer to update your System Software, the first thing you will be told to do is reinstall it—this time with the Installer. Basically what Apple is saying is, "The Installer works. Take the hint and use it! If you *still* have a problem, let us know."

But it isn't just Apple—many other companies are starting to take advantage of the Installer and insisting that people use it. It cuts down on the number of problems that users have due to faulty installations and, therefore, reduces the time that is spent answering the technical support phones.

The End Of The Road

This brings us to the end of our "Beginner's Guide To System Disks." By now, you should have a handle on what IIGS System Software is, what it does, and how to make sure you get the most out of any future versions of System Software. (Use the Installer!) But, if you still have questions about IIGS System Software, don't forget that the quickest way to learn about your computer is to pull out the manuals and then sit down at the computer and *use* it. If that doesn't help, send your question to us. That's what we are here for.

Coming Soon In *GS+* Magazine

Features
System Software v5.0.3 Compatibility Guide

Programs
Fractals-GS v2.0 (Honest!)

Reviews
Your IIGS Guide
Salvation: Deliverance
Harmonie
Sinbad and The Throne of the Falcon
Transylvania III
Space Ace
Design Your Own Home series

Tips On Writing Installer Scripts
By Joe Wankerl

If you have the urge to write Installer scripts yourself, I have composed some tips on how to do so. (Note that this article contains tips only! Detailed instructions on the creation of Installer scripts is in the file **TN.IIGS.064** in the **TechNotes** folder on your *GS+* disk.)

Creating Installer scripts is really a simple process. There are two general types of Installer scripts: those that install in a specific folder, and those that install in a user-specified folder. I keep templates for each type of script, and whenever I need to create a new one, I just pull out my template and add the specific information for the new script. Most of the flags for the scripts are the same. If I need to build a script that requires the flags to be changed, I dig out the Installer Tech Note and look them up. This Tech Note explains every single intricacy of the Installer and writing installer scripts. But since there is no need for you to "re-invent the wheel," I've provided you with my two template scripts on the *GS+* disk for you to use. They are in the **Scripts:Templates** folder on your *GS+* disk. They are in a second folder because, if I simply put them in the **Scripts** folder, the Installer would think they were valid scripts and let you invoke them, which would be bad because they are *not* complete.

You don't need to know everything in the Tech Note, and you don't have to use every Installer option and feature. Most scripts are just copying some files from a source disk to a destination disk, and that's all my templates were designed for. If you need to do something fancier, start with the template and have the Tech Note handy so you can identify all the flags—it's not humanly possible to remember all that junk!

I use EGOed (with a Courier font because it's monospaced and scripts look better that way) to design my scripts. Any text editor will do, though. Just replace everything inside the '[[[ ]]]' characters with the appropriate values - *remember to take out the '[[[ ]]]' too, but don't take out anything else!*

Replace "[[[Name of script here]]]" with the name you want your script to show in the list of scripts. Replace the "[[[Help description here]]]" with the text you want to appear when the user clicks on the Help button. Replace the "[[[Source disk prefix here]]]" with the prefix of the source disk, for example, ":GSP.V2.N2". You could also use ":GSP.V2.N2:Icons" if everything you are going to install comes from the Icons directory. The remainder of the script is for specifying which files to copy and where to put them. Replace the "[[[Source file partial prefix here]]]" with the remainder of the source file name. It will be prefixed by the source disk prefix, concatenated with the source file partial prefix. Replace the "[[[Destination partial prefix here]]]" with the prefix of where the file is supposed to be copied to.

There are four file copying entries in the script templates. That is usually more than enough for my purposes, and I usually delete the unused entries. If there are more than four files that need to be copied, just copy an entry to the clipboard and then paste it at the end of the file, but before the '~~' (these characters signal the end of the script).

That's really all there is to know about using my templates. Be sure to read up on the Installer Tech Note for all the flag values and options for the Installer and you'll be churning out quality Installer scripts in no time. If you have any particular problems developing or using Installer scripts, be sure to let us know about them!

LASERWRITING

A GUIDE TO USING AN APPLE LASERWRITER WITH THE IIGS

By Steven W. Disbrow

So you wanna use your IIGS with an Apple LaserWriter? Well, you are in luck. With the recent introduction of the Apple Personal LaserWriter NT, the cost of Apple brand laser printing has dropped about $1000. This is not to say that it isn't expensive, it will still cost you between $2,500 and $3,000 to get started with the Personal LaserWriter NT. But, if you *need* the kind of output quality that a laser printer can give you, it's worth every penny.

In this article, we will see how to set up and use a LaserWriter with the IIGS. In general, you can use the information presented in this article with any Apple LaserWriter. For more information on the printers that this article covers, see the sidebar, "LaserWriter Models." If you don't have a LaserWriter, you can use this information to help you prepare documents for printing on someone else's LaserWriter. If you are considering the purchase of a LaserWriter, you will see exactly what needs to be done to get started. If you have a LaserWriter, you will find several tips and templates (on the *GS+* disk) that will, hopefully, help you get more out of your LaserWriter. That's a lot of ground to cover, so let's get right to it.

Setting up Your LaserWriter
Taking your LaserWriter out of the box and setting it up is easy. Apple supplies excellent documentation which details everything you need to know about the "care and feeding" of whichever LaserWriter you buy, so I won't discuss that here. What I will discuss is the next step: connecting the LaserWriter to the IIGS.

There are at least two ways to connect your IIGS to a LaserWriter: direct connect using a serial cable, or via an AppleTalk Network. Believe it or not,

for everyday use, the direct connect method is the much more difficult and much less preferable of the two methods. So, we will talk about connecting via an AppleTalk Network. (Note: You will sometimes hear "AppleTalk" referred to as "LocalTalk." In most cases, these terms refer to the same thing, so we will use "AppleTalk" in this article.)

Built into every IIGS, Macintosh, and LaserWriter is support for networking via AppleTalk. All you need to do to set up your own little "printer network" is to connect your IIGS and LaserWriter by using the appropriate cables. To do this, you simply plug an AppleTalk connector into each device you want on the network and then run a cable between the connectors.

The most popular type of AppleTalk connectors are the ones that allow you to use ordinary telephone cord to connect your network devices. The ones we use are the *PhoneNET Plus* and *TurboNET ST* AppleTalk connectors. (The reason we use two different brands of connectors is that the TurboNET ST connectors are, generally speaking, less expensive. However, I highly recommend that you buy at least one PhoneNET Plus connector. PhoneNET Plus connectors come with a *wonderful* book that explains just about everything you could want to know about how to set up and maintain an AppleTalk network. It is definitely worth the few extra bucks.) Of course, the catch is that these connectors cost about $30 each and you need one for each device that you have on your network. For a simple IIGS to LaserWriter connection, you would need two connectors and a single length of phone cord to run between them. Apple sells their own AppleTalk connectors and cables, but almost everyone in the universe (Apple included) recommends the use of PhoneNET style connectors. The reason for this is that phone cord is cheap and plentiful. You can get 25 feet of phone cord at Radio Shack for a measly $6.15. The cables that Apple sells are expensive and *short*. I won't bother stating the

prices, because I don't want anyone to even consider using them.

Driving Miss LaserWriter
Once you get your LaserWriter and IIGS all hooked up, you have to install the appropriate *drivers* on your IIGS boot volume. To do this, *use the Installer* on your IIGS **System.Tools** disk! Let me say that again, "To install the proper drivers to use the LaserWriter, *use the Installer* on your IIGS **System.Tools** disk!" When you run the Installer, the only update you need to install is the LaserWriter update. This update will

Figure 1
Font Families

The following fonts were present in the original LaserWriter:

Courier
The quick brown fox jumps over the lazy dog.

Helvetica®
The quick brown fox jumps over the lazy dog.

Symbol
Τηε θυιχκ βροων φοξ φυμπσ οωερ τηε λαζψ δογ.

Times®
The quick brown fox jumps over the lazy dog.

In addition to the above, the following fonts are present in the LaserWriter Plus, LaserWriter IINT and LaserWriter IINTX.

Helvetica Narrow
The quick brown fox jumps over the lazy dog.

ITC Avant Garde®
The quick brown fox jumps over the lazy dog.

ITC Bookman®
The quick brown fox jumps over the lazy dog.

ITC Zapf Chancery®
The quick brown fox jumps over the lazy dog.

ITC Zapf Dingbats®
✳✳❀ ☐◆✳✳✳ ○☐☐■ ✳☐❙
✳◆○☐▲ ☐◆✳☐ ▼✳❀ ●●❙❙
✳☐✳✎

New Century Schoolbook
The quick brown fox jumps over the lazy dog.

Palatino®
The quick brown fox jumps over the lazy dog.

automatically install all of the LaserWriter and AppleTalk files that you need to properly use your LaserWriter over an AppleTalk network.

In addition to the LaserWriter and AppleTalk drivers, you also need to use the correct *fonts* in order to get the most out of your LaserWriter. While you can install an almost limitless number of fonts on your IIGS boot volume, the *LaserWriter itself* has a limited number of fonts built into it. The fonts that you install in the ***:System:Fonts** folder of your boot volume are QuickDraw II fonts that are used to draw text on the screen. For that reason they are often called *screen fonts*. The fonts that are built into the LaserWriter are *PostScript®* fonts. PostScript is the page description language that the LaserWriter uses. (See Figure 1 for a list of the fonts built into the various LaserWriters.) Since IIGS (and Macintosh) screen fonts are radically different from PostScript fonts, it is the job of the LaserWriter printer driver to tell the LaserWriter which of its built-in fonts you want to use. But, you must tell the driver which fonts you want to use by composing your documents using the corresponding screen fonts. For example, if your want the LaserWriter to print your document using the Times font, you must use the Times screen font for all of the text in your document. If you don't use these fonts in your documents, one of two things will happen:

1) The LaserWriter will substitute one of its built-in fonts for the unknown screen font you have used.
2) The LaserWriter will generate a cruddy-looking, bit-mapped equivalent of the screen font you have used.

As an example of the second occurrence, look at the examples for Helvetica Narrow and New Century Schoolbook fonts in Figure 1. Since I do not have the screen fonts that correctly correspond to these PostScript fonts, the LaserWriter generates the horrible bit-mapped versions that you see in the Figure. So, at this point, those fonts are (for all intents and purposes) unavailable to me for use in my documents.

Several of the appropriate screen fonts (Courier, Times, and Helvetica) come as standard equipment with IIGS System Software. Others, however, do not. So, as opposed to making you look high and low for them, we have put the more useful sizes of some of the other screen fonts for the LaserWriter on your *GS+* disk. To install these fonts on your boot volume, run the Installer program on your *GS+* disk. There are separate Installer scripts for each font family and a single script to allow you to install all of the fonts at once. (For more information on using the Installer, see *Beginner's Guide To System Disks: Part III* on page 6.)

Please note that there are a *lot* of files needed to support the use of the LaserWriter via AppleTalk and they take up a *lot* of room on your boot volume. I highly recommend at least a 20 MB hard drive for anyone that is going to be using a LaserWriter. (Before you balk at this, remember that if you are going to shell out $3000 for a *printer*, you really should not flinch at another $500 for a hard disk.)

After you have all of the appropriate drivers and fonts installed on your boot volume, you must restart your computer for all of the changes to take effect. The first time you restart your computer after installing the AppleTalk and LaserWriter drivers, you will prompted to type in a *user name*. This name can be just about anything you want, it is simply used to identify your computer on the AppleTalk network. (Here at the *GS+* Magazine office, I have named our computers after the Three Stooges.) Once you have typed in the name you want to use, your computer will continue the normal startup process. Unless you reinstall the LaserWriter drivers, this is the last time you will be asked for a user name.

Getting Ready to Print
Now that you have everything hooked up and the appropriate drivers installed, you are almost ready to print something. The first thing to do is turn on the LaserWriter. It takes about 1 minute for the LaserWriter to warm up and get ready to print. During that time, the LaserWriter runs some tests on itself. When it is finished, it prints out a test

page to show you that it is ready to go. When the test page has finished printing, and when the Ready/In Use light on the LaserWriter stops blinking, select the Control Panel NDA from the Apple menu. When the Control Panel NDA appears, select the LaserWriter CDev. When the LaserWriter CDev appears, you will see 4 items on the right side of the Control Panel. The first item is a list of LaserWriters that are in your network zone. This list allows you to choose which LaserWriter you want to print on. If you have only one LaserWriter, you still must click the mouse on that one to select it. The second item is a button labeled "ImageWriter Emulator." This button only becomes selectable after you select a printer from the first list. When you click on this button, a special program that allows the LaserWriter to emulate an ImageWriter is sent to the LaserWriter (more on this later). The next item in the LaserWriter CDev is a list of all of the AppleTalk *zones* that you have access to. Each of these zones will have its own group of LaserWriters. When you select a different zone, the list of LaserWriters in the first item will change to show you the LaserWriters in the selected zone. Unless you are working on a big network, the zone list will probably be empty, so don't worry about it. The last item shows the user name that you typed in earlier. If you want, you can type in a new user name here. After you have selected your LaserWriter, click in the close box to close the Control Panel NDA.

At this point, you are ready to print out whatever you want. However, there is one major "gotcha" that you need to be aware of. When you use "What-You-See-Is-What-You-Get" or "WYSIWYG" (pronounced "wizzy-wig") programs such as AppleWorks GS, the printer driver you have selected *directly affects* the way your document appears on screen and on paper. So, if you switch to the LaserWriter driver, and you try to print a document that was originally composed with the ImageWriter (or some other printer) driver selected, what you get out of the printer will probably bear no resemblance to what you were expecting.

So, when you are trying to print documents on the LaserWriter that were composed with a different printer driver, you must change the page setup so that the document will print correctly on the LaserWriter. To check the page setup, pick the "Page Setup" item from the file menu of the application. For things to appear properly sized on the LaserWriter, the Vertical Sizing *must* be set to "Condensed" in the LaserWriter page setup dialog. If it is not, the document will appear to be "stretched-out" on the paper. Some applications (AppleWorks GS and EGOed are two examples) will remember your page setup selections for each new document that you compose. Other applications will not remember this information and you will have to manually reset the page setup each time you start a new document.

So, if you are going to print a document on a LaserWriter (or if you don't have a LaserWriter, but you want to compose a document that will be *printed* on a LaserWriter) here are the things you must do: Before you start your document, you *must* have the LaserWriter driver installed and selected (if you don't have a LaserWriter hooked up to your IIGS, all you do to select the LaserWriter driver is pick the LaserWriter CDev in the Control Panel NDA), you *must* have the vertical sizing set to "Condensed" in the LaserWriter page setup and you *must* use the correct screen fonts in your document. This sounds like quite a bit to remember, but once you get the drivers installed and the Page Setup correctly set, all you really have to remember is to use the correct screen fonts in your documents.

Print!
After all of that, all you have to do is select Print from the file menu of the application and print just like you would with an ImageWriter. Of course, this only applies to desktop programs that use the Print Manager correctly. Examples of such programs would be AppleWorks GS, GraphicWriter III and our own EGOed. Printing to the LaserWriter with older 8-bit programs (and poorly behaved desktop programs) is only a tiny bit more complicated.

Printing with 8-bit Programs
When you are trying to print to the LaserWriter with an older 8-bit program (or a naughty desktop program like Prizm, from the Byte Works), there are a few extra things you must do. First, you have to set up the program so that it thinks that it is printing to an ImageWriter. In addition, you must tell the program that the ImageWriter is in the same slot that you have set for AppleTalk in the Control Panel. For example, in the printer formats that I use with DB Master (an example of which is on your *GS+* disk in the file **EMPTY.CUSTMR.01** in the folder **LaserWriting**) I have told DB Master that I am printing to an ImageWriter in slot 1. Note that this is for my ROM 03 IIGS. On a ROM 01 IIGS, you would be much more likely to have AppleTalk in slot seven. So, in that case, you would change the printer format to specify an ImageWriter in slot 7. Depending on the program, you should only have to set the configuration once. After you have the configuration set correctly, all you have to do is download the ImageWriter Emulator to your LaserWriter before you try to print. To download the emulator, simply select the Control Panel NDA from the File menu of any desktop application, select the LaserWriter you want to print to, and then click on the ImageWriter Emulator button. A dialog box will appear to tell you how things are proceeding. When the emulator is properly installed, the LaserWriter will produce a page telling the version number of the emulator. You can then start up your application and print with it just as if you had an ImageWriter connected. Note that you only need to install the ImageWriter *once* each time you turn your LaserWriter on. After it is installed, it will remain active in the LaserWriter until you turn the LaserWriter's power off. Also, applications that know how to print correctly to the LaserWriter will ignore the ImageWriter Emulator, so you don't have to worry about "getting rid of" the ImageWriter Emulator when you finish with your LaserWriter-hostile application.

One last thing you should know about the ImageWriter Emulator is that it can be very slow. If speed is of the essence, and your application supports it, you might

want to direct your printouts to a disk file, load them into a program such as AppleWorks GS and print them out from there. Another reason to do this would be if your program does not give you enough control over the printed page. Since the ImageWriter Emulator does not seem to be a perfect emulation, this can sometimes happen when using an older program to print to the LaserWriter. For example, we keep our customer database in DB Master Professional. While DB Master provides a wonderful array of reporting options, it just does not seem to work very well with the ImageWriter Emulator, at least, not well enough to do 3-up address labels. So, I have a special report format (which is in the **EMPTY.CUSTMR.01** file on your *GS+* disk) which I use to print customer records to disk in the format (tab-delimited) that AppleWorks GS can easily handle.

That's About It

That's really all you need to know to get started with a LaserWriter. As you can see, after you get everything set up properly, most of the work is done by the System Software; which is the way it should be. This allows you to concentrate on doing all of the creative things that you want to do.

In an effort to help you do some of those things and to prevent you from "re-inventing the wheel," we have included, in the **LaserWriting** folder on your *GS+* disk, several AppleWorks GS files that will allow you to easily print mailing labels, disk labels and post cards on a LaserWriter.

For mailing labels, we have provided three templates (**Left.Labels**, **Middle.Labels**, **Right.Labels**) to be used with the AppleWorks GS database file, **Mailing.List**. These files will allow you to print 1-up mailing labels on Avery Laser Printer Labels (product code number 5160 or 5260). Since AppleWorks GS can't print 3-up labels, you have to feed each sheet of labels through three times (and use all three templates) to use all three columns of labels on the sheet. This sounds like a lot of trouble, and it is, but the

LaserWriter is so fast, it's well worth the effort.

To print 3.5-inch disk labels, the AppleWorks GS page layout file, **Disk.Labels** has been provided. This file will allow you to print out 9 disk labels on a single sheet of Avery 3.5-inch disk labels (product code number 5196).

And finally, we have two files to help you print out postcards. The file **Post.Card.Front** is set up as a mail-merge document to be used with the **Mailing.List** database file. The file **Post.Card.Back** is the back of the postcard. To print both sides, you have to flip the cards over and feed them through the LaserWriter a second time. We send out renewal notices on postcards, so we really get a lot of use out of these files. These files are set up to be used with Avery Dot Matrix Printer Cards (product code number 4167). To use these cards with the LaserWriter you must:

1) Break the cards up into groups of two cards each. The reason for this is that you must *hand-feed* the cards into the LaserWriter and a single card is too short to insert properly into the LaserWriter.
2) Remove the pin-feed printer guides from the sides of the cards.
3) On the LaserWriter IINT and IINTX make sure you open the *face-up output tray*.
4) Print the first side of the cards.
5) Print the remaining side of the cards.

Note that printing postcards this way requires a quite a bit of work and a great deal of time "tending" the LaserWriter. For example, if you have a 20–name database, you would have 10 groups of two attached postcards. You would then begin printing one side or the other of the postcards. Each card must be hand fed, and when you get halfway through, you must remove the cards from the output tray, rotate them to print on the blank card and feed them in again. Then you have to turn the cards over and do the same thing again for the remaining side that needs to be printed. Confusing? Yes. Time-consuming? Yes. But, it's faster than using a ImageWriter, and after

you do it once, it's not really that confusing. Still, if anyone out there comes up with a better way, I want to know about it!

Toner Cartridges

This is the one place where owning a LaserWriter can get to be a *real* money drain. With our LaserWriter IINT, we go through a toner cartridge every two months. If we bought our cartridges retail, that would be $129 each, or $774 a year, not including tax! A better solution is to buy your cartridges through one of the mail order firms that advertise in the Macintosh magazines. For example, the last cartridge we bought from a Macintosh mail order firm cost us $99, plus $3 for overnight shipping. No sales tax. Perhaps the absolute best solution however, is to have your old toner cartridges *rebuilt*. The service we use for this is provided by a company called LaserTek. For only $59, LaserTek will pick up, rebuild, and deliver your cartridge back to you. Turn around time is about 1 week. At this point in time, I do not know if they provide this service for the type of toner cartridges that the Personal LaserWriters use. Fortunately, they have a toll-free number that you can call to find out. You may have also heard about having toner cartridges *refilled*. This is not something that I recommend. I have heard several horror stories about refilled cartridges that sprang "leaks" and ruined laser printers. I have heard no such complaints about rebuilt cartridges.

Maintenance

Typically, whenever you change toner cartriges is when you do routine maintenance on your LaserWriter. Instructions are provided with each new toner cartridge you buy, and it only takes about 5 minutes to clean everything that needs to be cleaned. In the year we have had our LaserWriter IINT, we have not had a single problem with it. Again, Apple's documentation tells you everything you need to know to maintain and troubleshoot your LaserWriter.

The End

And there you have it, just about everything there is to know about using a LaserWriter with your IIGS. The things

that I *didn't* mention (like how to hand feed sheets of paper) are explained in the LaserWriter documentation. If you are going to buy and/or use a LaserWriter, you *must* read the documentation that comes with it! The main point to remember is that while it may seem intimidating at first, Apple Computer, Inc. has done a wonderful job of making the LaserWriter easy to use with the IIGS. If, and *only* if, you *need* the quality of output that the LaserWriter can provide and you have the money to spend on it, you should not hesitate to jump in and join the desktop publishing "revolution."

Parts List

Personal LaserWriter NT
Retail price: $3499
Typical street price: approximately $2500
Contact your local Apple dealer for more information.

Phone cord - uncoiled, 25 feet
Retail price: $6.15
Available at Radio Shack
(catalog number 279-356)

PhoneNET Plus
AppleTalk Connector
Retail price: $59.95
Typical mail-order price: $33
Farallon Computing, Inc.
2201 Dwight Way
Berkeley, CA 94704
(415) 849-2331

TurboNET ST
AppleTalk Connector
Retail price: $59.99
Typical mail-order price: $30
Nuvotech, Inc.
2015 Bridgeway, Suite 204
Sausalito, CA 94965
(415) 331-7815
(800) 232-9922

Toner cartridge recharging service
Normal cost for service: $59
Lasertek
4301 Valley View Blvd.
Las Vegas, NV 89103
(800) A LASER 4U
(800) 252-7374
(702) 873-1444

Copy Plus: paper for everyday printing
20 lb, 8.5" x 11", one ream (500 sheets)
Retail price: $7.50
Typical street price: $3.50
Hammermill Desktop Papers
(800) 242-2148

Laser Print: for high-quality printing
60 lb, 8.5" x 11", one ream (500 sheets),
Retail price: $10,
Typical street price: $5.25.
Hammermill Desktop Papers
(800) 242-2148

Avery Laser Printer Labels
3-up address labels (product code 5160,5260)
3000 labels (5160) - retail price: $30.47
750 labels (5260) - retail price: $8.96
3.5-inch disk labels (product code 5196)
630 labels - retail price: $39.90

Avery Dot Matrix Printer Cards
3.5" x 6" postcards (product code 4167)
500 continuous cards - retail price: $13.15

Avery products are available at most office supply and computer stores. Street prices vary widely. Shop around for the best price!

WARRANTY DISCLAIMER

Beginning with this issue, we are including the Apple IIGS Installer on the *GS+* disk. In the software licensing agreement with Apple Computer, Inc. that we signed for IIGS System Software v5.0.2, it says that we have to print the following warranty disclaimer "in a conspicuous place" and "in bold letters." No problem!

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TEACHTEXT TRANSLATOR

By Joe Wankerl

One of the outstanding features of GraphicWriter III is its ability to import the files that other word processors and graphics applications can create. GraphicWriter III employs *translators* to do the work of the conversion. Translators are loaded from a translator directory when they are needed. This means that whenever a new file format appears, a translator can be written that will be able to take the file and tell GraphicWriter III what is inside in a way that GraphicWriter can understand.

Since *GS+* has a product, EGOed, that creates TeachText files, and we use GraphicWriter III to lay out the magazine, it was a wonderful day when I finally completed this project. Diz usually uses EGOed to write all his articles, and I used to use AppleWorks GS because we could change the style of our text easily. When it came time to lay out the magazine, we all had to change the TeachText files to straight text files, import them to GraphicWriter III, and then go through and change back all the style information. *No longer!* Now we all use EGOed (although I miss my spelling checker and thesaurus) and the time it takes to lay out the magazine has been cut drastically!

Installation
Installing a translator is simple. All that needs to be done is to put the translator program in a special directory that GraphicWriter III looks in whenever it wants to translate a file. To install the TeachText translator, use the Installer program on the *GS+* disk. Make sure you select GraphicWriter III's **GW.Translators** folder before you click on the Install button. The next time you use GraphicWriter III, the translator will be ready for your use.

But How Can *I* Use It?
Using the translator is even simpler than installing it! A translator is invoked by two menu items, Import... and Export..., under the File menu. Selecting the Import... menu item lets you take a file that was saved in a non-GraphicWriter III format and load it into your current document. Selecting the Export... menu item lets you take a selection of your GraphicWriter III document and save it in a format so other applications can use it.

For example, create a new document from GraphicWriter III and then put a text box somewhere (I usually option-click on the top margin line) on the page. Next, select the Import... menu item. A dialog box will appear letting you select which kind of file you wish to translate. Choose TeachText. Now a familiar Standard File dialog box will appear letting you choose the TeachText file to import into your document. Pick the **GW.Sample.Teach** file from the **Translator** directory of your *GS+* disk, for example. After a few whirrs of the disk drive, the TeachText file will have been translated into GraphicWriter III's format and laid out! To make sure that it translated correctly, open EGOed and load in the same **GW.Sample.Teach** file and compare the two. They look mighty similar, eh?

Okay, now for the hard part: the export option. Just kidding, of course. It's just as easy as the import option, although *writing* the export option was a pain! Select the Export... menu item. The same dialog box will appear letting you select which kind of file you wish to create. Choose TeachText, again. Once again, a Standard File dialog box will appear letting you choose the filename of the TeachText document you wish to create. A good choice for this example is to use the default name provided, "Untitled," or pick something inconspicuous like "Test." After a few more whirrs of the disk drive, a new TeachText file will have been created. Just to make sure that it translated correctly, open EGOed back up and load in the new file to take a look.

The only things that are translated right now are the font, size, and style information. If you have color or tabs or any other type of formatting, it will not be translated. But the object of this exercise was to only get the font information translated since it is the most frequent type of formatting. The other formatting options are trivial.

We Hope You Enjoyed the Ride . . .
It's interesting to note that this is the *only* known translator that exports properly. The universal translator provided with GraphicWriter III bombs at the first style change.

Well, that's it for the end user documentation. If you have a problem using the translator or you can think of any enhancements, be sure to contact me. A good way to let me know what's really going on with some of those problems is for you to fill out that nifty problem form that's provided on your *GS+* disk.

. . . But the Fun Part Has Just Begun!
Yes, now it's time for the programming aspect of the TeachText translator! There are ten source code files (nine assembly files and one ZapLink script) and one make file. The make file creates the entire translator. If a change is made to any one of the source files, all that needs to be done is for that one source file to be assembled and then linked. There is no need to reassemble all the other source files that have not changed.

A translator is made up of eight parts. The first part is the header. It calls the other seven parts of the translator that actually do the work. All the information on creating a translator is on the *GS+* disk. (Thanks to Dave Hecker of Seven Hills Software for letting us distribute the translator information on our disk!) I won't discuss the format or parts of the translator, I'll discuss what actually goes on during each part. If you want to author or change a translator, be sure to be versed in the translator driver format. Also, pick up the *Apple IIGS Toolbox Reference,*

Volume 3 for all information on the rStyle resource.

Starting Up

All the memory that will be used is allocated in the Start routine. First, all handles are zeroed. Handles then lose their zero values as memory is allocated. This is done so the Shutdown routine can recognize handles that have never been allocated and won't attempt to deallocate them. If an error occurs during the memory allocation procedure, all previously allocated handles need to be discarded.

There are two accompanying procedures for the Start routine: AllocateMemory and ResizeMemory. AllocateMemory creates a one byte memory block and returns the handle in the X and Y registers. ResizeMemory takes two parameters on the stack: the handle to resize and the new size for that handle. Then it resizes the specified memory block.

Shutting Down

All the memory handles that were allocated are deallocated in the ShutDown routine.

Open

Open first sets the ImportExport flag to let the Close routine know whether to close and clean up after importation or exportation. There are *vast* differences in the Close routine for imports and exports. Next, a Standard File dialog is presented. The pathname is dereferenced from the Standard File reply record, and the data fork containing all the text is opened. The resource fork containing all the style information is opened and *all the style information is read*. Finally, some variables are initialized to begin the reading process.

There are seven accompanying procedures for the Open routine: DerefPathname, OpenDataFork, OpenResFork, ReadResFork, CloseResFork, CloseDataFork, and InitializeVars. DerefPathname takes the pathname handle in the Standard File reply record and dereferences it, storing the result in the

PathnamePtr direct page locations. The pointer points to a GS/OS class 1 *input* string, not an output string. OpenDataFork opens up the specified file's data fork and sets the reference numbers for any future read or write commands. OpenResFork opens up the specified file's resource fork which automatically puts it first in the chain (a _LoadResource call will first look in this file, then the others in the chain). ReadResFork loads the rStyle resource fork into memory and then dereferences the handle and puts the pointer in the FormatPtr direct page locations. The resource is then detached so the Resource Manager is no longer responsible for it. CloseResFork simply closes the opened resource fork. CloseDataFork simply closes the opened data fork. InitializeVars scans the rStyle resource and finds the pointers to the style dictionary (StyleListPtr) and the pointer to the list of style changes (StylePtr), as well as finding the number of style changes.

Read

The Read routine simply traverses the style changes, and for each style change it reads in the number of similarly styled characters from the data fork and then sets the translator record style information locations. Caution is taken not to return more than $8000 bytes of similarly styled characters, since GraphicWriter III cannot handle that (the NoRead flag is used for this purpose). Finally, when all style changes have been processed, a zero length of text is returned to let GraphicWriter III know that there is no more data.

Create

Create first sets the ImportExport flag to let the Close routine know that exportation has been taking place. Next, a Standard File dialog is presented. The pathname is dereferenced from the Standard File reply record and any file with the name returned with the Standard File call is destroyed. A new file is then created and the data fork, which will contain all the text, is opened. Finally, the buffers for the style dictionary and style changes are initialized along with some pointer information for them.

There is one accompanying procedure for the Create routine: SetupBuffers. SetupBuffers takes the dictionary handle and the style handle which were created in the Start routine and dereferences them. Also, the number of style changes and the number of dictionary entries are zeroed because there are no entries yet.

Write

The Write routine simply takes the text that it was given and writes it out to the data fork. Then it traverses the style dictionary to find out which style, if it exists in the dictionary, was used for the text. If the style is found in the dictionary, the style change record is resized and the style change is then appended to the current style change buffer. If the style is not found in the dictionary, the dictionary record is resized and the new style is then appended to the current dictionary buffer. Then the style change is appended to the style change buffer.

There is one accompanying procedure for the Write routine: EnlargeMemory. EnlargeMemory is called similarly to the way tool calls are made, in that result space is first pushed on the stack, then the parameters for the procedure are pushed on the stack, then the routine is called. When the routine returns, the results are then pulled off the stack. The input parameters are a handle to a working memory space, the size of an entry (this routine is used to enlarge both the dictionary and the style change buffer, which have entries of different sizes), and the handle to the memory to be enlarged. The output parameters are a pointer to where the new entry starts, the handle to the new working memory space, the handle of the newly enlarged memory, and the pointer to the newly enlarged memory (the reason for the new memory handle and pointer will become apparent during the discussion of the enlargement). First the routine gets the current size of the memory handle and checks to see if it is of size one (which means it has been newly allocated since no entry is of size one), and if it is, it changes the returned size number to zero. The entry size is

then added to the current memory size and the *work memory* is resized. The original memory is left alone. The work handle and the memory handle are then swapped so the new memory handle becomes the work handle and the new work handle becomes the old memory handle. Then the new work handle (old memory handle) is copied into the new memory handle. The new memory handle is dereferenced to get the new pointer to the memory and the old memory size is added to the pointer to get the pointer to the new entry. Debugging this routine was some serious work!

Close

`Close` first closes the data fork. The cancel code is then checked to see if the file needs to be destroyed. Then the `ImportExport` flag is checked to see if importation or exportation is being done. If the translator was importing, the file is never destroyed. If the translator was exporting and the cancel code is set, then the file is destroyed and the `Close` routine is finished. Otherwise, the `ImportExport` flag is checked once again. If the translator is importing, then the resource fork is closed and the `Close`

routine is finished. If the translator is exporting, then a resource fork for the file is created and then opened. The work memory is resized to be big enough to hold a window position resource, and a default window position resource is copied into the work memory. The window position (which is in the memory referenced by the work handle) is then added to the resource file. I got the window position data from the default EGOed window position. Next a new work handle must be allocated since the previous `_AddResource` call gave the Resource Manager control of the handle. The new work handle is then resized to the length of the style dictionary plus the length of the style change buffer plus the length of the default ruler and header information plus the length of the dictionary and style change size entries. Then the default ruler and header information is copied into the work buffer followed by the style dictionary size info and data followed by the style change buffer size info and data. The newly composed `rStyle` information (which is in the memory referenced by the work handle) is then added to the resource file. I got the default ruler and header data from

the default EGOed `rStyle` resource. Finally the resource file is closed.

There is one accompanying procedure for the `Close` routine: `AppendFour`. `AppendFour` takes the size information for the dictionary or style change buffer (which is in the X and Y registers) and puts them in memory pointed to by the pointer in the work direct page locations. Then the work pointer is increased by four, the size of the X and Y registers, so the next information added will come after the size information.

Globals

The direct page variables are defined in the `Globals` data segment, as well as all the rest of the program data, including GS/OS parameter blocks, Standard File reply records, and the default TeachText ruler.

That's basically all there is to writing a translator! If you find any problems with this translator or you have any questions about it, be sure to let me know about them! Use the problem form supplied on your *GS+* disk to help us identify your problems and find solutions.

CHRISTMAS BUYER'S GUIDE

By The *GS+* Staff

Ho! Ho! Ho!

So, the holidays are upon us (If the post office has done its usual job, Christmas is about a week away . . . or a week gone by.) and you aren't quite sure what to get for that special someone in your life. Well, if that special someone is an Apple IIGS user (Note that we said *user*, not owner. This way, you can pretend to buy "gifts" for people in your family when you are actually buying them for yourself! Clever, eh?), you won't have any problem this year. What follows here are some of our favorite IIGS products. Give one of these to the IIGS user in your life (or yourself) and you'll be sure to get invited to that New Year's Eve party they always throw!

Game Software

Everybody *loves* games. Even if you pretend to be one of those stuffy "Productivity" types, chances are you break out a game now and again to give the kid in you some play-time. So, here are some of our favorite games on the IIGS.

Adventure Games

Captain Blood (19) •§
Dungeon Master (27) •†
Neuromancer (12) •†
OMEGA (20)
Pirates! (17) •†*f*
The Bard's Tale I & II (10) •
The Immortal (10) •†§
2088: The Cryllan Mission (31) •

Arcade Games

Alien Mind (21) •†
Any of Brian Greenstone's ShareWare games (except Senseless Violence 2) (22) ¬
Arkanoid I & II (30) •
BLOCKOUT (7) •
Cribbage/Gin King (27) •
Pipe Dream (14) •†§
Rastan (30) •§
Solitaire Royale (29)
Task Force (4) •
Tetris (29) •
Tunnels Of Armageddon (7) •
Xenocide (18) •

Educational Software

Of course, if your gift recipient is a small child, you will probably want to give something that will educate them about something other than killing space aliens. Of course, you also want to give them something that will keep their attention through all of those holiday bowl games!

For Younger Children

McGee (15)
Katie's Farm (15)

For Older Children

USA Geograph (16) •§
World Geograph (16) •
Where in the World is Carmen Sandiego (5) •
Where in the USA is Carmen Sandiego (5) •

Productivity Software

If your gift recipient is one of the afforementioned "stuffy" people, he or she will probably appreciate one of the following items. Of course, it won't be as much fun on Christmas morning!

AppleWorks GS (8)
GraphicWriter III (25)
HyperStudio v2.1 (24)
IIGS System Software v5.0.3 (2, or your local Apple dealer)
Print Shop IIGS (5)

Utility Software

If you get one of these gifts for your friend, they will probably look at every other box like it contains a new hard drive! Be careful! Charles Manson snapped under similar circumstances!

The Salvation series (32) §
ProSel-16 (11)
Disk Access (25)

Programming Aids

For computer geeks only. (We have every single one of these and want more!)

A membership in the Apple Programmer's and Developer's Association (2)
Apple IIGS Toolbox Reference: Vol. 3 (1)
Genesys (26)
GS Bug (2)
Nifty List (9) ¬
ORCA/C (6)

Hardware (The Wish List)

Gosh, wouldn't it be *great* to get some new computer *hardware* for Christmas? If you want one of these items, you better start kissing up to Santa now!

A Hard Disk
A Joystick
A Modem (2400 Baud *External*)
A Stereo Card
AE 3.5" Drive (3)
LaserWriter IINT
More Memory
Quickie hand scanner (32) §
System Saver GS (12)
TransWarp GS (3)
Zip GS (33)

Where To Get It

Always, always, always, support your local computer dealer first! It's good for your local economy. But, if they don't have what you are looking for (or you don't have a local computer dealer), mail order is your best bet. For a complete list of just about every Apple II oriented mail-order firm in existence, pick up a copy of *A+/inCider* magazine. And when you place your order, don't forget to tell them you saw it in *GS+* Magazine!

Happy Holidays!

Key

• - Copy Protected
† - Not Hard Disk Installable
¬ - ShareWare
§ - See review in this issue
f - Not ROM 03 Compatible

(1) Addison-Wesley Publishing Co., Inc.
1 Jacob Way
Reading, MA 01867
617-944-3700

(2) Apple Programmer's and Developer's Association
800-282-2732

(3) Applied Engineering
PO Box 5100
Carrollton, TX 75011
214-241-6060

(4) Britannica Software, Inc.
345 4th St.
San Francisco, CA 94107
800-572-2272

(5) Broderbund Software, Inc
17 Paul Dr
San Rafael, CA 94903
800-521-6263

(6) The Byte Works
4700 Irving Blvd. NE, Ste. 207
Albuquerque, NM 87114
505-898-8183

(7) California Dreams
780 Montague Expwy., #403
San Jose, CA 95131
408-435-1445

(8) Claris Corp.
5201 Patrick Henry Dr.
PO Box 58168
Santa Clara, CA 95052
408-987-7000

(9) DAL Systems
PO Box 875
Cupertino, CA 95015-0875

(10) Electronic Arts
1820 Gateway Dr
San Mateo, CA 94404
425-571-7171

(11) Glen Bredon
521 State Rd
Princeton, NJ 08540

(12) Interplay Productions
1575 Corporate Dr.
Costa Mesa, CA 92626
800-969-4263

(13) Kensington Microware Ltd.
251 Park Ave
S. New York, NY 10010
800-535-4242

(14) Lucasfilm Games
PO Box 10307
San Rafael, CA 94912
415-662-1902

(15) MCE, A Division of Lawrence Productions
1800 S. 35th St.
Galesburg, MI 49053
800-421-4157

(16) MECC
3490 Lexington Ave. N
St. Paul, MN 55126
800-228-3504

(17) MicroProse Software Inc.
180 Lakefront Dr.
Hunt Valley, MD 21030
301-771-1151

(18) Micro Revelations, Inc.
PO Box 70430
Reno, NV 89570
800-442-6002

(19) Mindscape, Inc
3444 Dundee Rd
Northbrook. IL 60062
708-480-19948

(20) Origin Systems, Inc.
PO Box 161750
Austin, TX 78716
512-328-0282

(21) PBI Software
Address not available
415-349-8765

(22) Pangea Software
10918 Kirwick
Houston, TX 77024

(23) Quantum Computer Services, Inc.
8619 Westwood Center Dr
Vienna, Va 22182
800-227-6364

(24) Roger Wagner Publishing, Inc.
1505 Pioneer Way, Ste. P
El Cajon, CA 92020
619-442-0522

(25) Seven Hills Software Corp.
2310 Oxford Rd
Tallahassee, FL 32304
800-6627-3836

(26) Simple Software Systems International, Inc.
4612 North Landing Dr.
Marietta, Georgia 30066
404-928-4388

(27) Software Heaven, Inc.
PO Box 112489
San Diego, CA 92111

(28) The Software Toolworks
One Toolworks Plaza
13557 Ventura Boulevard
Sherman Oaks, CA 91423
818-907-6789

(29) Spectrum Holobyte
A Div of Sphere, Inc.
2061 Challenger Dr.
Alameda, CA 94501
415-522-3584

(30) Taito Software, Inc.
206 - 267 W. Esplanade
N. Vancouver, BC, Canada V7M 1A5
800-663-8067

(31) Victroy Software
PO Box 821381
Houston, TX 77282
800-232-3828

(32) Vitesse, Inc.
13909 Amar Rd., Ste. 2
La Puente, CA 91746
800-777-7344

(33) Zip Technology
5601 W. Slauson Avenue, Suite 190
Culver City, CA 90230
213-337-1313

NEW PRODUCTS

The following product descriptions were taken from press releases that we have received here at *GS+* Magazine. As with all press releases, the products described therein may or may not actually exist. But, in an effort to scare up some business for those companies that have the *guts* to actually support the IIGS, we thought we should share them with you.

10 Fruity New Flavors!

Orange Cherry Software, while not too thrilled with our reviews of their products in *GS+* V2.N1, was nice enough to let us know that they are about to release 10 brand new titles for the IIGS! The new titles are: *Talking Classroom*, *Jungle Safari*, *Super GS Award Maker*, *Talking First Words*, *Children's Newspaper Maker*, *Talking Cloze Technique* (that's the way it's spelled in their press release!), *Space Shuttle Word Problems* (Quick! Spell "Hydrogen Leak."), *Talking Speller II*, *Readable Classic Tales* and *Talking Multiplication & Division*. For a *free* catalog of Orange Cherry's software call *toll free*, (800) 672-6002. Or, write to:
Carol Vazzana
c/o Orange Cherry Software
Box 390 Westchester Ave
Pound Ridge, NY 10576

If You Can't Beat A Quickie, Join It!

On October 8th Vitesse announced that they had begun shipping a package called, *Quickie Update*. Contained in the Quickie Update package is a controller card, software and a manual. Despite the name, this is apparently *not* an update to the actual Quickie scanner that Vitesse sells. What it is, is a new controller card that you plug into your IIGS, IIe, II+ or Laser 128 that allows you to use just about *any* hand held scanner on the market. According to the press release, with the Quickie Update installed in your Apple II, you can use the Lightning Scan, Scan Man Plus, Geni scan, Genius GS 4500, DFI Handy Scan and "many others." The retail cost of the Quickie Update package is $129, scanner not included. For pricing on these different scanners, loiter at your local bookstore and check out various Macintosh and IBM-PC oriented magazines. Be sure to take a pencil and paper to write down what you find. For more information on the Quickie Update, contact Vitesse at (818) 813-1270 (ask for John Pothier) or write to:
Vitesse, Inc.
13909 Amar Road
La Puente, CA 91746-1669

Are You Lost Friends?

CompuShare has just released a new book called, *Your IIGS Guide* by Shelly and Pete Lisoskie. According to the press kit they sent us, *Your IIGS Guide* is a generic user's guide covering all aspects of using the IIGS. It's darn well about time *somebody* published something like this! The cost is only $21.95 (plus $3 for first class shipping or $2 for third class shipping). If you want more information or want to order a copy, call CompuShare at (206) 348-9626, or write to:
CompuShare
P. O. Box 825
Mukilteo, WA 98275

Attention Publishers!

We want to help you get the word out about your *IIGS specific* products. Send us a press release, and we'll mention your product here. Send those press releases to:

GS+ New Products
P.O. Box 15366
Chattanooga, TN 37415-0366

ERRATA

In *GS+* Magazine Volume 2, Number 1 (September-October 1990), we made a rather silly error in the "Programmer's Queue & A" section. Ken Moordigian of San Fernando, CA had asked if StatText items could have style changes in them, and we replied no. This is definitely wrong. StatText items take their text from LETextBox2 strings, and those strings can indeed have embedded style changes. Thanks to our good friend Jeff Hartkopf for pointing this out!

Remember, if you find a mistake in *GS+* Magazine or in one of our programs, let us know!
Write to us at:

GS+ Problems
P. O. Box 15366
Chattanooga, TN 37415-0366

THE MOLEHILL

By Josef W. Wankerl

Usually when I start programming on a project, it starts out very small. I just want to see if I can get something to work. So, to make things easy, I lump everything into one file to assemble or compile. After a while, things get rolling and I realize that the compiles are taking longer and longer and it would be better if I split things into separate files and just compile the file I make a change to. So I do that. Compiles go a bit faster, but I'm still not getting everything out of separate compilation that I should. "The reason," you ask? I don't have a very good *make* utility!

A make utility is a facility in which, by "magical" means, the source files that you have made changes to are automatically compiled or assembled. There is no need for you to remember which files changed or for you to manually tell the computer to assemble and link them together. The make utility handles it all for you. What I'm about to present here is *not* a make utility, but it's *almost* as good.

I usually create one big exec file, call it "make," and lump all my Macgens, Compiles, Assembles, Links, and Renames in there. This just does a full build of my system. I wanted something to selectively macgen and compile the files I told it to. I decided to start with what I had at hand (I didn't want to write an elaborate make utility from scratch - I just wanted to see if I could take utilities I already had) and build a small pseudo-make

utility. So I decided to do a bit of (*gasp*) reading. From my research, I realized that all the parts I needed had already been made for me!

I dug out my ORCA manual and leafed through the pages of the shell commands and ran across a rather nifty idea. I can make an exec file that does everything I want it to do just by using one statement: For. Before I go any further, let me give a basic description of how things are going to work. First off, when you interpret an exec file, you just type its name (in our case, **make**). You can then supply parameters to the exec by placing them after the name. For example, make cake would invoke the make exec and pass it a parameter called cake. You can also make cake cookies bread and the parameters passed would be cake, cookies, and bread. What I want to do is call my make exec and pass it the programs I want to compile.

The For command that we want to use follows this syntax: For variable; statements; End. There is an additional format of the For statement that I am not going to discuss, but the ORCA manual describes it clearly enough, so if you want to learn more, dig it out! Basically, the For statement loops through all the parameters passed on the command line and assigns the for variable those values. So if you typed make cake cookies and then said For X in the exec file, X would first take on the value cake, and then the value cookies. To get the contents of that variable, you put braces ({

and }) around it. So, {X} would be the contents of the shell variable X. Now that you know how things work, take a look at Figure 1.

So now if you have 5 source files called **A.ASM, B.ASM, C.ASM, D.ASM,** and **E.ASM,** you can selectively perform macgens and assembles on only the files that you have changed! Everything would then be linked at the end.

This has just been a simple type of make utility. The real trick would be to get the exec file to know what files you have changed automatically and then compile only those. Maybe I'll dig up a way to do this for next time. The real moral of this has been to read your manuals! You never know what you may run across. Anyway, I hope this has made your programming life a bit easier . . . I know it has mine.

Figure 1

```
For X
  Macgen {X}.ASM {X}.Macros {X}.Macros 7/Macros/M16.=
  Assemble {X}.ASM Keep={X}
End
Link A B C D E Keep=F
```

RANDOM IIGS PROGRAMMING NOTES

By Josef W. Wankerl &
     Steven W. Disbrow

This issue, we have updates to Transfusion (from *GS+* V1.N6) and EGOed (from *GS+* V1.N2). The updated programs (complete with source code) are on your *GS+* disk. (For more information on how to install these programs, refer to "How To Use The *GS+* Disk" on page 22.) This article describes the changes to these programs and any programming tricks that were used in creating the changes. For those of you that are just joining us, let's take a second to explain exactly what EGOed and Transfusion are.

EGOed is a New Desk Accessory (NDA) text editor. To use it, you *must* use IIGS System Software v5.0.2 or later. EGOed allows you to edit and print plain text, TeachText, and AppleWorks Classic Word Processor files from inside any desktop program that supports NDAs.

Transfusion is an NDA terminal program. It allows you to go online from within any desktop program that supports NDAs. To use it, you must use IIGS System Software v5.0.2 or later and an *external* modem. Transfusion does not yet support internal modems.

EGOed Update
The new version of EGOed is version 1.32. This version has two new preferences that give you a bit more control over the editing of files.

The first new preference is *Smart Cut/Paste*. When the Smart Cut/Paste preference is selected, EGOed will remove any leading spaces when text is cut, and it will insert spaces before and after any text that is pasted. In past versions of EGOed, this was the default. However, some people simply didn't like this feature. Disabling Smart Cut/Paste will cause EGOed to do normal, "stupid" cut and paste operations without any padding or removing of spaces. The default is that Smart Cut/Paste is enabled.

The second new preference is *Word Wrap Off*. Normally, EGOed wraps text that is too long to fit on a single line to the next line. With this preference enabled however, text that is too long to fit on a single line will simply run off the right hand side of the window. The default is for word wrap to be enabled.

As with the other EGOed preferences, these preferences take effect with the *next* file that you edit.

How It's Done
Changing these particular preferences seemed, at first, to be a fairly tricky proposition. The bit flags that determine the behavior of each of these options is hidden away in the `textFlags` field of the `TERecord` that the TextEdit tool set and the Control Manager use to keep track of the TextEdit control. While it is possible to change these fields at will, I was not sure that it would have any immediate effect on the way the EGOed TextEdit control behaved. Still, I was determined to try. So, I looked in the *IIGS Toolbox Reference Volume 3* and found the necessary information and wrote the code. But, when I tried to compile it with TML Pascal II, I was told that there was no such field as `textFlags` in a `TERecord` structure! When I looked at the TML Pascal II interface file for TextEdit, I could see why—the interface file was based on the information that Apple had given TML Systems over a year ago! The names of the fields and the structure of the record had changed dramatically. The last thing I wanted to do was rewrite all of the TML Pascal II interface files so, it was back to square one.

As I was looking at the interface file, I saw that the definition for the TextEdit control parameter block was correct. This is the same thing as the TextEdit control template that is kept in the EGOed resource fork. It is used to create a new TextEdit control every time EGOed opens a new file. So, the solution then was to load in the TextEdit control template

using a `LoadResource()` call, change the `textFlags` based on the user's preferences and *then* create the new TextEdit control. The last thing to do is to force the Resource Manager to remove the control template from memory so that it will have to load in a fresh, unmodified, copy the next time around. This is done with the `ReleaseResource()` call.

The drawback to this is that the changes only take effect when you create a new TextEdit control. However, after reading the TextEdit tool set documentation, I am afraid that this is the only way to change these flags. If someone out there knows a better way, please share it with us!

Transfusion Update
For version 1.1 of Transfusion, I have added 1K and 4K XModem sending and receiving capabilities. To install the new version of Transfusion, be sure to use the Installer program which is on your *GS+* disk. Using the larger packet sizes for transfers results in more time being spent in sending and receiving the data as well as computing the CRC. The increase in background task time is so great that it almost makes doing other tasks unbearably slow while the transfer is in progress. Although the transfer throughput is greater using the larger packet sizes, more work can be accomplished simultaneously if the 128 byte packet sizes are used. In summary, use the smaller packet sizes if you need to do work at the same time and use the larger packet sizes when background transfers are not necessary.

The documentation on the XModem 4K protocol is on the *GS+* disk. The 4K method is a derivative of the 1K method. The details for the starting handshake for a 1K transfer is described in the 4K document - you send a "C" and then immediately follow it with a "K." The main transfer is the same except instead of sending a "SSTX," 1K sends a plain "STX," and instead of sending 4096 bytes of data, 1K sends 1024 bytes.

RUMORS, WISHES & BLATANT LIES

By the Illustrious Prof. G.S. Gumby

Staying In Touch...

In an effort to patch things up, and to prove that they are still in touch with the needs of IIGS owners, Apple Computer, Inc. should soon begin shipping an expansion card that will allow IIGS owners to run IIe and IIc software. Could someone please wake these people up?

Coming Soon

Rumor has it that HyperCard GS is ready to go. When it will ship is apparently up in the air. The best guess is that Apple will announce it at AppleFest this December. Also, System Software v5.0.3 has been shipped to developers and will supposedly be available on the various online services (America Online, GEnie, etc.) by November 9th. Among other things, this new version will have a bunch of bug fixes, a vast set of improvements in the way Standard File works, a speedier printer driver for the ImageWriter and a new printer driver for the HP DeskJet Plus. While this latest update was definitely worth the wait, some people just couldn't! Apparently both Beagle Brothers and Applied Engineering jumped the gun and began distributing copies of System Software v5.0.3 a few weeks too early. It is said that Apple Computer Inc. is not very pleased with either company and might slap both of them on the wrist. Bad doggie! Bad engineer! No biscuit!

Oh, Get Real!

According to our sources, an certain Apple II peripheral manufacturer, which is renouned for it's ability to rip-off other products, is somewhat jealous of the success of Vitesse's "Salvation" series of utilities. So, later this year, they hope to release the first module in their new "Damnation" series of IIGS utilities. The first module will be called, "Pestilence," and it will soon be followed by "Famine," "War," and, oh, I can never remember that last one.

Macintosh, Inc.

With the introduction of the three new, um, low-cost Macs, many people have begun refering to Apple Computer, Inc. as "Macintosh, Inc." While this is merely humorous the first zillion times you hear it, after a bit of thought, it seems that Apple might really *want* to change their name to Macintosh, Inc. After all, with the Beatles old record label, Apple Corps., suing them over the musical abilities of the IIGS and the Apple MIDI interface, it might save them a lot of money!

Get A Job, Sha-Na-Na-Na!

Andy Nicholas, the author of ShrinkIt and ShrinkIt-GS, is now gainfully employed by Apple Computer, Inc. Congratulations Andy! Enjoy the new job and all that California smo... I mean, sunshine.

There They Go Again!

So George Bush promised us no new taxes and Apple Computer, Inc. promised us an Apple II ad campaign . . . I don't have a joke here, but it is an interesting comparison don't you think? (Actually I did have a joke for this, but *GS+* is a family magazine.)

More Wishes Dang It!

So, we've been at this for a year now, and while each issue is easier to do than the last, there are still a few million things that we wish were available for the IIGS. (Listen up greedy people, there may be a market here!) The things that we would like to see are:
1) A full page display. All this scrolling around is beginning to get on our nerves!
2) Support for Encapsulated PostScript graphics.
3) A IIGS monitor with *square* pixels. It can't be that hard to do, can it?
4) An HFS (Macintosh) FST for GS/OS.
5) A version of Flash! for the IIGS.

Sequel Fever!

According to a spokesman for Electronic Arts, if sales for The Immortal, Keef the Thief and Pipe Dream (which EA distributes) are good, we should soon see some sequels to these programs. The sequel for The Immortal will be called, "The Guy Who Falls In Holes And Dies A Lot." Seems like a fairly self-explanatory plot. The sequel to Keef the Thief will be called "Flo the . . ." Hold on! That can't be right!

Must be a mistake on this note Steve gave me. To continue: The sequel for Pipe Dream, will be called, um . . . we can't print that! Well, anyway, in this game you have to connect these, er, uh . . . hey! Who's sick idea was this anyway?

Random IIGS Rumor Notes

Rumor has it that:
1) Al Martin, editor of the *Road Apple* won't be attending AppleFest due to the presence of Macintoshes.
2) The IIGS printer driver wars will soon be getting very heated. Look for Fax-Modem drivers and more color printer drivers in about 6 months.
3) We won't be at AppleFest either, but Vitesse will be giving away all of the magazines that we can send out to them. Stop by their booth and help us deplete our inventory so we can get a hefty tax break!

You Can Do Better?

Oh! You can eh? I suppose you can tie your own shoes too! You can? Heck, you're over qualified! At any rate, send those rumors, wishes and blatant lies to:

GS+ Rumors
P.O. Box 15366
Chattanooga, TN 37415-0366

The *GS+* Users' Group Connection

We want to compile a list of IIGS Users' Groups and/or IIGS Special Interest Groups (SIGs) that are a part of regular Apple II Users' Groups. If you are a member of such a group, have your president contact us. All we need for the list is the name and address of the group. However, if you give us a free subscription to your group's newsletter, we'll give your group a free magazine-only subscription to *GS+*! Send that information and/or newsletter subscription to:

GS+ Users' Group Connection
P. O. Box 15366
Chattanooga, TN 37415-0366

HOW TO USE THE GS+ DISK

The first thing you need to do is **make a backup copy of your *GS+* disk with the Finder!!!** Next, put the original in a safe place. If you are having a problem making a backup copy, give us a call at (615) 870-4960. If your disk is damaged, let us know and we'll get a new one to you as soon as possible.

Beginning with this issue of *GS+* Magazine, we will be including the Apple IIGS Installer on each *GS+* disk. As a result of this, almost all of the software on this and future *GS+* disks will be installed by using the Installer.

So, to install the software on this issue's *GS+* disk, start up your computer using System Software v5.0.2 or later, and then place your *backup* copy of the *GS+* disk in a drive. Double-click on the Installer icon. When the Installer window appears, select the update you want to install from the left-hand window, and the disk you want to install it on in the right hand window. Then click the Install button. For more information on how to use the Installer, refer to you IIGS owner's manual or the "Beginner's Guide To System Disks - Part III" article on page 6 of this issue of *GS+* Magazine.

There are twelve items in the root directory of this issue's disk. They are:

a.Read.Me

A lot can happen from the time we send this magazine to the printer and the time we get ready to mail them out. If anything does happen, we will put everything we can find out about it in this file. This is a plain text file.

EGOed

EGOed - This is the EGOed NDA, version 1.32. For more information on this version of EGOed, see "Random IIGS Programming Notes" on page 20.
EGOed.1.32.p - The TML Pascal II source code for EGOed v1.32.
EGOed.Docs - A plain text file containing documentation for the use of EGOed v1.32.

EGOed.rez - The REZ language file that is used to create the EGOed resource fork.
Smaller - An APW EXEC file that is used to compact EGOed after it has been compiled with TML Pascal II.

EGOed v1.32 requires System Software v5.0.2 or later. This means that your system must have at least 512K of RAM. It will not work correctly with System Software v5.0 and it will not work at all with System Software v4.0! EGOed must be installed on a startup disk.

Icons

This folder contains the Finder icons discussed in "Icons" on page 23.

Installer

This is the Apple IIGS Installer. Run it to install the other programs on this issue's disk. For more information on the Installer, refer to your IIGS owner's manual or the "Beginner's Guide To System Disks - Part III" article on page 6 of this issue of *GS+* Magazine. For Apple's standard disclaimer, see page 12.

LaserWriting

Fonts - This folder contains several screen fonts that will allow you to compose documents to be printed on an Apple LaserWriter. Use the Installer to install them on your startup disk. In addition to the **Fonts** folder, this folder contains several files that will allow you to generate various types of printouts with an Apple LaserWriter. For more information on these files, refer to "LaserWriting" on page 8.

Problem.Form

This is the *GS+* bug report form. If you find a bug in one of our programs, fill out this form and send it to us. This is a TeachText file. Use EGOed to view it.

Quickie.Rev

This folder contains pictures that were scanned with the Quickie hand scanner from Vitesse. (See review on page 24.) These are compressed, Apple Preferred Format, (APF) pictures. Use any program

that can load APF files (DeluxePaint II, SHRConvert, etc.) to view them.

Scripts

This folder contains the scripts that are used by the Installer. There are 10 scripts and 1 folder in this folder. The scripts are:
All.Fonts - Installs *all* of the LaserWriter screen fonts that we have included on this *GS+* disk.
Avant.Garde, Bookman, Palatino, Symbol, Zapf.Chancery, Zapf.Dingbats - These scripts install the *individual* LaserWriter screen fonts that are included on the *GS+* disk. All fonts must be installed on a startup disk.
EGOed, Transfusion - These scripts install the EGOed and Transfusion updates respectively. Both of these must be installed on a startup disk.
Translator - Installs the GraphicWriter III Teach Text translator. The target folder must be the **GW.Translators** folder for your copy of GraphicWriter III.
Templates - This folder contains the two script templates that are discussed on page 7.

TechNotes

TN.IIGS.064 - This file explains everything you need to know to create your own Installer scripts. This is a plain text file.

Transfusion

Transfusion - Version 1.1 of the Transfusion NDA. For more information about this latest version of Transfusion, see "Random IIGS Programming Notes" on page 20.
TransfusionDocs - A plain text file containing documentation for the use of Transfusion v1.1.
XFusion.H, XFusion.CC, XCom.CC, XWindow.CC, XTrans.CC - The ORCA/C source code files for the Transfusion NDA.
XFusionHistory - A text file detailing the changes that Transfusion has gone through.
Make - An APW EXEC file that is used to compile Transfusion.

ICONS

By Steven W. Disbrow

This issue's disk is so full, we did not have room for too many icons. However, here's what you will find in the **Icons** folder on your *GS+* disk.

GS.Plus.Icons

This file contains icons that are for items that are on each *GS+* disk. There are icons for EGOed, the *GS+* disk, TeachText files, and a special folder icon. To have these icons available at all times, copy this file into the **Icons** folder of your boot volume.

Installer.Icon

This is an icon for the Installer. It was taken from the **Finder.Icons.X** file that comes on the IIGS System Disk.

QMaster.Icon

This is a *big* icon for the game Questmaster (see review on page 37). This icon was created with the Quickie hand scanner and DIcEd. The scan that this icon was made from is in the **Quickie.Rev** folder on your *GS+* disk in the file **QuestMaster**.

Quickie.Icons

The Quickie hand scanner (see review on page 24) comes with some great icons, but they are *hollow* (i.e. the desktop shows through them). I modified the icons so that they are filled with white. No big trick, but it looks a lot better on the desktop! Put this file in the **Icons** folder of the disk that you run your Quickie software from.

XFusion.Icon

This is the icon for the Transfusion NDA. To use it, copy this file into the **Icons** folder of your boot volume.

That's it for this issue. If you have any Finder icons that you would like to share with us, be sure to send them on in!

DISKLESS?

How To Use The *GS+* Disk
Continued from page 22 . . .

Transfusion v1.1 works only with System Software v5.0.2 or later and requires an *external* modem. This means that your system must have at least 512K of memory. It will not work System Software v4.0 or internal modems! Transfusion must be installed on a startup disk.

Translator
TeachText - This is the TeachText

translator for GraphicWriter III. It must be installed in the **GW.Translators** folder of the disk you run GraphicWriter III from.
XLator.Specs - This file contains the official documentation for writing GraphicWriter III translators. It was provided to us by Seven Hills Software, Inc. This is a TeachText file. Use EGOed to read it.
The remaining files in this folder contain the source code for the TeachText Translator. Refer to the article "TeachText Translator" on page 13 for more information on these files.

Writers.Guide
This is a TeachText file that tells you what you need to do to write reviews, articles, programs, etc. for *GS+*. Use EGOed to view it.

The contents of the *GS+* disk is not public domain or shareware! Please do not give away copies of it or any of the programs on it. If you do, we will not be able to stay in business. It really is that simple!

REVIEWS

QUICKIE HAND SCANNER

Software by   Christopher Warner &
               Robert Morgan

Retail price: $299.95
Typical mail-order price: $195
Not copy-protected
Requires 1 MB RAM

Vitesse, Inc.
13909 Amar Road, Suite 2A
La Puente, CA 91746
Information: (818) 813-1270
Technical Support: (818) 813-1274
FAX: (818) 813-1273
Orders: (800) 777-7344

Reviewed by Steven W. Disbrow

[Editor's Note - The product reviewed here was a review copy provided by the manufacturer.]

The *Quickie* is a *hand-held scanner* that allows you to quickly and easily digitize line-art, photos, and just about anything else you can run it over. (Not recommended for body parts however.) This is the same style scanner that is all the rage in the Macintosh and IBM PC markets.

High Speed.   Low Drag.   No Maintenance.

The Quickie is incredibly easy to install and use. First, you install the Quickie controller card in any slot (except the memory expansion slot, of course). If you are using the GS/OS version of the Quickie software (which is the version we will discuss here), you are not required to make any changes in the Control Panel. So, if you want, you can plug the Quickie controller into slot 5 and not lose the use of your 3.5-inch drives. This is a great feature that, thankfully, more and more IIGS expansion cards seem to have. The only difficulty you might have with installing the Quickie controller is that it's receptacle can only be mounted in the "short" access hole in the back of the IIGS (the one behind slot 2). This could be a problem if you already have another card

that requires the use of this access hole. I know of at least one other expansion card that requires the use of this access hole, Color Computer Eyes for the IIGS, but, if you can afford a scanner and a digitizer, you can probably afford two computers. That point aside, the Quickie is very easy to install. The manual details the installation process very well and includes several excellent photos that show you exactly what needs to be done. Once you have the card installed, you simply plug the Quickie scanner into the card's receptacle. The cable that connects the scanner to your computer is at least five feet long, so you should have plenty of slack to play with no matter how your system is set up. You should also be sure that you have a fairly large space to use the scanner on. Scanning on top of your mouse-pad (like I have to do) is *not* convenient.

The Quickie software is even easier to install. If you have a hard disk, just create a new folder and copy the software into the folder, or make a copy of the Quickie disk and run the software from there. There is also a New Desk Accessory (NDA) version of Quickie that you can install so you can use the scanner from within any desktop program.

The Quickie software is incredibly easy to use. After you run it, just select Scan Image from the Quickie menu. A dialog box is then displayed that shows the current orientation of the scan (portrait or landscape) and the number of inches that can be scanned in this image. To scan an image, all you do is place the Quickie on top of it, press and hold the START button on the scanner and drag the scanner over the image. As you scan the image, the Quickie software shows you what it is receiving from the scanner, on the screen. When you reach the bottom of the image, release the START button and press <return>. The Quickie software will then perform some computations to fine tune the appearance of the image and then shows it to you in a standard window. If you try to exceed the maximum number of inches that can be scanned (which is determined by

how much free RAM you have), the software automatically shuts off the scanner and begins its calculations. If the image is to your liking, you can then save it in one of six different formats. These formats include: standard screen-shot format, Paint Format, Apple Preferred Format, Print Shop GS, Hi-Res and Double Hi-Res format. Basically, that's all you have to do to scan and save a picture with Quickie.

Quality Images

The first scan I ever did with the Quickie, 10 minutes after I took it out of the box, was beautiful. I was amazed that it was so easy to get such a great image in such a short time. However, this is not to imply that *everything* you scan with Quickie will automatically be beautiful. There are some images that simply will not scan very well. However, the Quickie hardware and software provide a plethora of options to help you scan in most anything short of the Shroud of Turin. Among other things, these options give you control over the method used to calculate grey shades in the result image (this is called *grey smoothing*), the resolution of the image (100, 200, 300 or 400 dots per inch) and the aspect ratio of the image.

The single most important factor that influences the final appearance of your scans is the grey smoothing method that you choose. The Quickie software offers several different methods for this, with several different options that you can further apply to each method. The one method that seems to yield the best results however, is the *Express Smoothing* method. This is especially nice, since Express Smoothing is also the fastest smoothing method that Quickie has. If you scan an image using Express smoothing, the software takes about 30 seconds to present you with the final image. Using other methods can sometimes take two minutes or more to see your final results. While this might sound like a long time compared with the 15 frames per second of the Vision Plus or even the six second digitization time for

the Computer Eyes video digitizer, you should remember that, with a hand scanner, the stuff you scan should either be dead and/or flat so as not to put up much of a fight or move about very much. This is in direct contrast to the living things (relatives, pets and body parts) that people seem to love pointing video digitizers at. Regardless of which smoothing method you choose (or what you scan), Quickie presents you with a thermometer to show you exactly how things are progressing.

Other Features

Apart from these features, the Quickie package provides several other small touches to make scanning things a breeze. The smallest of these features is the width scans that Quickie can do: 4.13 inches. If you think that 4.13 inches is too dang narrow, you are right. However, the Quickie software allows you to easily compensate for this by merely cutting and pasting multiple "strips" together. It's ridiculously easy to do: First, scan the image in as many strips as are necessary. Second, create an empty window using the New option from the Quickie File menu. When you select New, you are presented with a dialog box that allows you to set the width and height (in pixels) of the new window. The last thing you do is copy the strips from each window and paste them into the new window. The only trick is making the strips line up correctly. If you scan the image so that the strips slightly overlap each other, lining up the strips becomes very easy.

Another nice feature of the Quickie software is its ability to scan in both 320 and 640 graphics modes. Generally speaking, 320-mode scans look the best, but 640-mode scans are very nice as well.

The Quickie software also has a full range of image editing and manipulation features. For instance, if you have a picture that is three inches tall and seven inches wide, you can tell the Quickie software that the picture will be scanned in Landscape mode (side-to-side instead of up-and-down) and drag the scanner from left to right across the image. When you are done, the Quickie software will automatically rotate the picture so that it appears correctly on the screen.

Once you have a scan in memory, you can turn on Fat Bits and edit the image pixel by pixel just as you would with a paint program. You can also get a full screen preview of the image, or a reduced size image that shows the scan in its entirety.

Finally, you can also use your scans as Icons. Simply scan in the image you want to use, resize it if necessary (icons can only be so big), select and copy the image in Quickie (or the Quickie NDA) and paste it into your favorite icon editor. An example of this is the icon I did for Questmaster which is on this issue's disk (see "Icons" on page 23 for more information.)

Speaking of the Quickie NDA, it has almost all of the features of the stand-alone program. However, it is slower (which you would expect) and it does take up almost 100K! Still, it is nice to be able to scan from within almost any program.

Bad Stuff?

Apart from the things mentioned above, there is very little wrong with the Quickie. The biggest problem is not even Vitesse's fault, it's Apple's. You see, even though the images that Quickie creates can be beautiful, when you try to print them out, they look like . . . well, they don't look as good as they could. This is due to the poor way Apple's printer drivers handle bit-mapped images (at least on the LaserWriter).

This is also why all of our Quickie examples are on the disk and not in the magazine. Hopefully, the new drivers that Vitesse and Seven Hills Software are working on (for Hewlett-Packard printers) will change all of that, we should know soon.

The last problem I have with the Quickie is that, in some of the ads for it and on the box itself, they show a color picture being scanned and a resulting color picture on the screen. Quickie does not scan in color. To be fair, below the picture it is stated that the image shown is merely a simulation and that Quickie does not scan in color. However, almost no one reads fine print and Vitesse should seriously think about changing this as it might mislead some people.

How Do Lawyers Do It?

There are only so many ways to say, "In conclusion," so let me just say that if you need a fast and easy way to take printed images and put them into your computer, the Quickie is hard to beat. The hardware is solid, the manual is excellent, the software is full-featured, and Vitesse's support is probably the best in the IIGS market. Even at it's retail price of $299, the Quickie is an excellent value and is, in fact, priced quite a bit less than comparable Macintosh and IBM PC products. At the typical mail-order price of $195, it's a steal.

AE 3.5" DISK DRIVE

Retail price: $279
Typical mail-order price: $199

Applied Engineering
P. O. Box 5100
Carrollton, TX 75011
(214) 241-6060

Reviewed by Steven W. Disbrow

If you use your IIGS for more than just games, chances are you need to have a second 3.5-inch drive. Until recently, when you needed a second drive, you had to talk to the—um—experts at your local Apple dealer and pay whatever they—and Apple—wanted. Fortunately, about a year ago, American Micro Research (AMR) began selling a IIGS compatible 3.5-inch drive and broke Apple's stranglehold on the market.

Unfortunately, the AMR drive did not get the press it deserved and many people were afraid to buy one because it was not "Apple equipment." The most recent entry into the IIGS 3.5-inch drive market is from Applied Engineering (AE), one of the most respected names in the Apple II community. Since this is a name that everyone in the Apple II world knows, the introduction of the AE 3.5" Drive has served to "legitimize" the concept of using a third-party drive with the IIGS. In this review we will focus on the AE 3.5" Drive while comparing it with both the Apple and AMR drives. (For a full review of the AMR 3.5-inch drive, see page 26 of *GS+* V1.N6.)

Well Worth The Wait
Although the AE 3.5" Drive was announced a few months before it was available, it was very much worth the wait. The drive is very similar in appearance to the Apple 3.5 Drive. It is the same size and the same filthy-grey color (which Apple refers to as "Platinum").

While the similar appearance is nice, what makes or breaks a disk drive is performance and reliability. The Apple 3.5 Drive provides the only comparison point, and it is a tough act to follow. I have three Apple drives (one is over three years old) and I've never had a single problem with any of

them. I've had the AMR drive for about 5 months now, and have formatted well over 1,000 disks with it, and it has not given me a single problem either.

In the month and a half I've had it, I've put our AE 3.5" Drive through quite a wringer as well. I used it to duplicate almost all of the disks that we sent out with the last issue of *GS+*, and I'll be using it again on this issue. At this point in time, none of those disks have come back as bad. So, until I get a disk or two back (and not being able to look three years into the future), I would have to say that the AE 3.5" Drive is about as reliable as you can get.

Comparisons
As I said before, the AE and Apple drive have an almost identical appearance; with one sitting on top of the other, they almost look like twins. The AMR drive is smaller than either of the other drives and has a more "boxlike" appearance. Both the AE and AMR drives have their eject button on the lower right of the face of the drive. This can be annoying at first, but with the AMR drive it's not quite so bad because the eject button is about twice as big as the button on the other drives. The biggest difference in the appearance of the three drives is Applied Engineering's use of an incredibly nifty disk access light that flashes green when the drive is reading data and red when the drive is writing data. This is a very nice feature that neither the Apple or AMR drive has.

Moving to the inside of the drives, both the Apple and AE units use the same Sony drive mechanism. The AMR drive uses a NEC drive mechanism. One result of this is that the AMR drive is much louder than the other drives. This is not to say that the AE drive is not loud: it is. It's just not as loud as the AMR drive. However, neither drive is so loud that it will wake up a sleeping (and potentially violent) spouse during those late nights of computing.

One similarity between the AE and AMR drives is that they don't "grab" the disk as you insert it into the drive. Unlike the Apple drive, you have to push the disk all the way in until it snaps into place. To me, this is a minor annoyance, but some people I know feel that this is a major drawback in the AE and AMR drives.

Compatibility
When I got my AE drive, I decided that my faithful AMR drive deserved a vacation. So, I connected it to one of our other IIGSs. This other IIGS was a ROM 03 machine with a Video Overlay Card (VOC) installed. When I booted the machine and put a disk in the AMR drive, the screen "jumped" each time the computer read from the drive. After a while, the problem seemed to go away. But, when I would switch disks, it would happen again. After a bit of experimentation, I was able to determine that it only happened when the AMR drive was the first drive in the daisy-chain and it only happened on the machine with the VOC. I called AMR and they said that they had not heard of this problem. (They did, however, want me to ask anyone that has the same problem to call them at (714) 590-3900, so that they can track the problem down.) I then hooked the AMR drive up to our other ROM 03 machine (the BBS machine) and it worked fine.

When I hooked the AE drive up to the VOC machine, it had no problems.

The Price Is Right!
Retail on the Apple drive is $429. The retail on the AE drive is $279. The retail on the AMR drive is $259. All three are excellent drives but the Apple unit is too danged expensive. To be blunt, there is no longer *any* reason for anyone to buy an Apple drive. If you know someone that is about to buy a IIGS or a 3.5-inch drive, do them a favor and make sure that they don't waste their money on an Apple drive.

So, having said that, which of the two remaining drives should you buy? Well, if you have a Video Overlay Card, forget the AMR Drive. Otherwise, you really can't go wrong with either drive. It comes down to price, and who you want to buy from. Both AE and AMR have been around for quite a while (AMR was formerly known as Micro-Sci), and they should both be around for some time to come. If you buy via mail order you can get the AE and AMR drives for $199 and $189 respectively. I am very fond of the AMR drive, but, at those prices, I would have to say that the AE drive, with its read/write indicator, slightly quieter operation and apparently superior compatibility, is the better buy.

SALVATION: RENAISSANCE
Programmed by Joe Jaworski

Retail price: $49.95
Typical mail-order price: $25
Not copy-protected
Requires 1 MB RAM

Vitesse, Inc.
13909 Amar Road, Suite 2A
La Puente, CA 91746
Information: (818) 813-1270
Technical Support: (818) 813-1274
FAX: (818) 813-1273
Orders: (800) 777-7344

Reviewed by Steven W. Disbrow

[Editor's Note - The product reviewed here was a review copy provided by the manufacturer.]

What the Heck Is a "Renaissance" and Why Does Your Hard Disk Need One?

Among other definitions (none of which apply to this program), the *Webster's Encyclopedic Unabridged Dictionary of the English Language* defines Renaissance as "a renewal of life, vigor, interest, etc.; rebirth; revival." As for why your hard disk needs such a thing done to it—well, it's because, with frequent use, hard drives have a tendency to become sluggish.

It's not really your hard disk's fault, it's just following orders from the operating system. (Any operating system you care to name. This is a universal problem.) Whenever you store files on a disk (hard or otherwise), the operating system tries to put the file on the disk in a *contiguous* fashion. That is to say, it tries to make sure that the file is physically "all together" on the disk. However, since computers can do only what they are told (believe it or not), they don't always manage to pull this task off. When the operating system tries to write a file to a disk, it looks for the first space that is free. When it finds one, it uses it, regardless of whether it's big enough to hold the file it is trying to write! For example, suppose you are working with a file that is 15K in size. You try to save the file, and the first block of free space

on the disk you are saving on is only 12K big. The operating system will write out 12K worth of information, see that it is out of room, and then find the next free space on the disk, which may or may not be big enough to hold the remaining 3K of your file. As this continues, your file will be broken into pieces, or *fragments*, which are, most likely, nowhere near each other. So, when you want to read or write that file, the read/write head in the disk drive has to skip all over the disk in order to access all of the file. That takes time, and makes your hard drive appear to be gradually slowing down.

That's where Renaissance comes in. Its job is to go over your disk volumes and physically rearrange the files so that they are contiguous. This is referred to as *optimizing* a volume. This results in reduced access time to your files and, therefore, (slightly) speedier operation of your computer.

How Does It *Do* That?

Like the other Salvation utilities, Renaissance uses a wonderfully simple desktop interface that allows you to quickly and easily get down to the task at hand. In fact, you might be a bit disappointed when you first look through the Renaissance menus, there just doesn't appear to be that much stuff there. Looks can be deceiving! Under the Renaissance menu bar is everything you will need to get your disks whipped into shape.

Since the Renaissance menu bar is so sparsely populated, let's look at each menu (except the Apple and Edit menus), and see exactly what this program can do.

The File Menu has three options, Sort Directory, Close and Quit. Close and Quit do exactly what you think they do, so lets look at Sort Directory. When you select the Sort Directory option, you are shown a list of all the volumes you have online. Double-clicking on a volume brings up a list of the files in the *root* directory of the volume, showing the order that they appear in the directory. (If the volume you selected was the startup volume, Renaissance displays a warning that you will have to reboot if you actually sort the directory.) You then

select the file whose position you want to change, and click on either the Move Up or Move Down button to change the position of the file in the directory. When you have all of the files exactly where you want them, click on the Sort button and Renaissance changes the directory.

This is a very handy option to have, as it will force Renaissance to move the files where you want them when you optimize your disk. The only problem is that you can only sort the positions of files in the *root* directory. If you want to sort the order of, say, your desk accessories—forget it. You will have to use another program to sort any subdirectories. Salvation: Wings (see review on page 23 of *GS+* V2.N1) can do the job, but it would make sense to have this capability in Renaissance as well.

As you might expect, rearranging every single piece of data on a disk can take a long time. So, the first thing you do with Renaissance is use its Examine menu to determine just how badly fragmented your volumes are. The first option in this menu, Blocks, quickly scans a volume of your choosing and reports on free blocks. This is a very quick operation (about 10 seconds for my 32 MB drive) and gives a *vague* idea of how badly a volume may be fragmented. The other option in this menu, Blocks and Files, does a very detailed scan of the volume you choose. Not only does it show free blocks, it also examines the individual files on the volume to see how badly they are fragmented. When Renaissance completes this task (this can take a few minutes), it displays, as a percentage, how badly the volume is fragmented. At this point, you can click on the Optimize button and Renaissance will begin the task of optimizing the volume.

In the Renaissance manual, it states that if a disk volume is more than 5% fragmented, it's probably a good idea to optimize it. It also states that this is just a rule of thumb. If, for instance, you have a disk (like the Nucleus Demo) that you bring out once in a blue moon to impress the IBM PC owners in your life,

and Renaissance reports that it is 10% fragmented, it probably would be a waste of time to optimize it. However, if the disk you start up your computer with every day is 5% fragmented, it is definitely worth the time to optimize it.

When you click on the Optimize button, Renaissance goes to work rearranging the files on the volume you have selected. As Renaissance optimizes the volume, it presents a graphic display showing its progress. This display is interesting to watch, but, if you are in a hurry, it can be turned off (via the Set Options... dialog) so that the optimization proceeds more quickly. (Along those same lines, it would be nice if Renaissance could automatically blank the screen for you during optimizations.)

How Fast Is It?
Well, Renaissance optimized the first partition of our InnerDrive (7.7 MB out of 21.1 MB used) in 36 minutes. After optimization, the boot time on this drive dropped from 25 seconds to 22 seconds. When I used Renaissance on the first partition of my CMS 60 MB drive (26.7 MB out of 31.7 MB used) with a Rev C Apple II SCSI card, it took 1 hour, 1 minute and 45 seconds to complete the optimization. The boot time dropped from 1 minute and 2 seconds to 59 seconds. While this is pretty slow compared to disk optimizers I have used on other machines (the Norton Utilities for example), it is much better than the one other optimizer I have used on the Apple II. The one and only time I used Easy Drive to optimize my CMS drive, it took upwards of 24 **HOURS** to complete the task! To be fair, I have not used ProSel, so I do not know how it compares with Renaissance in regard to speed. [But we would like to know! - Ed.]

When Renaissance completes its optimization of the volume, it displays a dialog box telling you that it has finished. It also gives you an aural alert by saying (over and over and over and . . .) that, "Renaissance has finished." A nice touch. I only wish that Vitesse had given the name of the young lady whose voice they used.

Oddly, after you optimize a volume, the Help item (in the Apple menu) becomes inactive. This is the only real "bug" that I have noticed in Renaissance.

Speaking of Optimizing a Volume . . .
I nearly forgot the Optimize menu! The Optimize menu contains 2 items: Set Options and Optimize. The Set Options item brings up a dialog box that lets you turn the audible alert off or on, turn the nifty graphical optimization display on and off, and control whether or not Renaissance will try to optimize Bad Block files (this option is explained in detail in the manual.) The other option in this menu, Optimize, does the same thing as the Optimize button that you get through the options in the Examine menu. The only difference here is that once you select a volume, you don't get a chance to cancel the optimization! This can be a *very* nasty surprise if you have forgotten exactly how this option works. Especially if you have not made your backup! Hopefully, Vitesse will include a confirmation of some sort (after the volume selection dialog) in the next version.

Documentation
As usual, Vitesse's documentation is excellent. It clearly explains all aspects of what Renaissance does, and why it needs to be done. It also stresses, over and over,

the *absolute necessity* of making a backup of your data *before* you use Renaissance. Renaissance is so easy to use that advanced users probably won't need the documentation, but, it makes interesting reading (if you are into disk fragmentation that is). If you are a beginner, take about 15 minutes to sit down and read the Renaissance documentation and you shouldn't have any problems.

Is It Worth It?
Well, after optimizing my hard disk, the time it took to reboot my system was reduced by 3 seconds. That does not sound like much, but to me, it is. You may be thinking, "$25 to reclaim 3 seconds? This guy really needs to get a life!" Perhaps. But remember, that's 3 seconds I save *every time* I turn on or reboot my computer. Not to mention the fact that Renaissance has sped up the access time to *all* the files on my hard drive. Time is the one resource you can never replace, so it makes sense to save as much as you can.

Like the other Salvation utilities, Renaissance does exactly what it says it will do and it does it relatively quickly and very easily. If you want to keep your hard drive in tip-top shape and squeeze maximum performance out of your system, you should buy Renaissance.

Scale: 1 Pixel = 16 Bytes
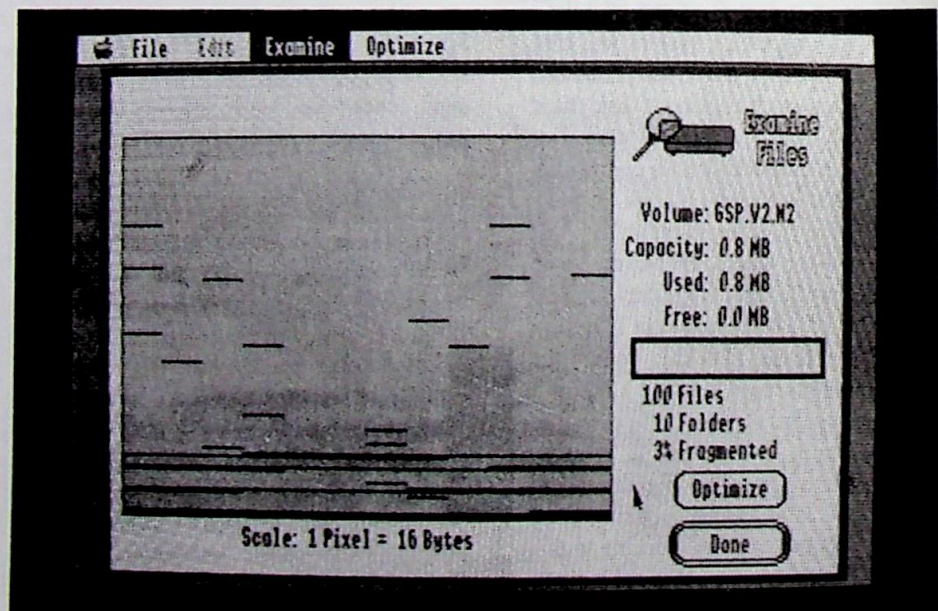
USA GEOGRAPH

Retail price: $89
Retail price with classroom guide: $99
Typical mail-order price: $56
Lab packs and network version available
Copy-protected
Requires 768K RAM

Minnesota Educational Computing
Corporation (MECC)
3490 Lexington Avenue North
St. Paul, MN 55126
(800) 228-3504

Reviewed by Greg Zimmerman

"The main part of . . . education is not the
acquisition of facts but learning how to
make facts live."
— Oliver Wendell Holmes, Jr., 1886

Particulars

USA GeoGraph is an educational tool for
the study of the geography (and related
topics) of the United States. While it is not
a game, it has unlimited potential for
stimulating educational exploration of the
relationships among the states and
territories.

USA GeoGraph comes on two disks, with a
set of backup disks included in the package.
MECC recommends the program for use by
grade 5 through adult. Personal observation
confirms that you should not buy this
program for first grade children. USA
GeoGraph will run on either a ROM 01 or
ROM 03 IIGS, is copy-protected, and is
System Software v5.0.2 compatible. The
current version of the USA GeoGraph
program is v1.0. Included with the program
is an extensive 190-page manual. It is well-
written, and easy to follow. There is so
much to this program, that it is impossible
to get the full benefits of its features
without reviewing the manual. The
classroom guide for USA GeoGraph (not
included with the regular program package)
is a great addition to the manual. It is full
of suggested lessons and ideas for the use of
USA GeoGraph.

MECC has recently reduced the retail price
of both USA GeoGraph and its companion
program World GeoGraph from $139 to $89
dollars. This has resulted in a substantial
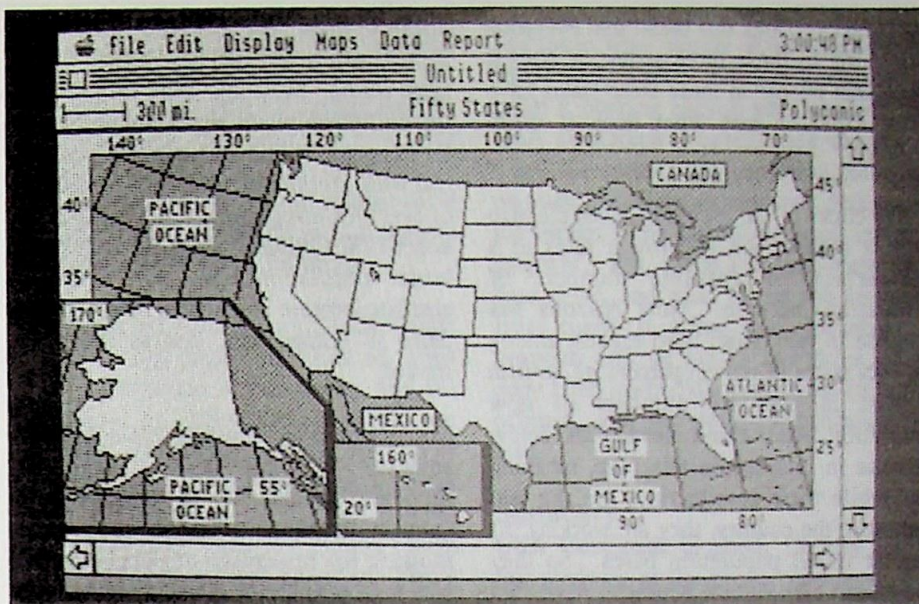
drop in price at some of the mail order
companies. The program is now available
for under $60. USA GeoGraph is also
covered by MECC's generous replacement
policy. If anything happens to one of your
disks, you may return it for a new one
without charge. MECC also has more IIGS-
specific programs on the way. This
company is doing a great job of releasing
quality software for the IIGS, and their
continued support of the IIGS educational
software market is good news for all IIGS
owners.

Finally, MECC has a toll-free number to
call for customer support. While this
program is easy to operate after only a small
amount of hands-on experience, it has a
sufficiently large number of features that
calling MECC to make use of their customer
support services is not unlikely. So the toll-
free number is a real money-saver. During
several of my calls to the company, when
the customer support representative did not
have particular information I was looking
for, I was connected with someone who did
(such as a program designer), or I was called
back immediately with the information I had
requested. My overall experience with
MECC customer support was that the people
at MECC are organized, thoughtful,
knowledgeable, and really care about their
products.

The Program

USA GeoGraph is composed of a database
combined with extensive maps that interact

with the data. The data base can actually be
manipulated using the maps. The purpose of
the program is to allow quick and easy
graphic and text based comparisons of
information in 105 categories covering all 50
states and the six U.S. territories. The
territories are American Samoa, Guam,
Northern Marianas, Puerto Rico, Virgin
Islands, and District of Columbia.

For example, comparing the population
growth rates of the 50 states graphically on a
map of the U.S. takes less than 10 seconds.
Database information is input into the
selected map, and displayed through color-
coding the results by state. In this instance,
the map can be displayed with or without the
color key, the results may or may not (at the
option of the user) include the six territories,
boundaries of the states may be displayed or
deleted, and the resulting map can be printed
in one of several combinations of formats for
use in a report or for reference. The same
database information can be displayed and
printed in the form of a graph, data table, or
distribution chart.

The maps and database are not limited to
overall comparisons. In the first example,
Arizona was shown to be in the top quarter
of the states for population growth rates. To
further investigate, and in less than 10
seconds, another map can be formulated
showing how all other states compare to
Arizona in population growth rate. It turns
out that Arizona has the third highest growth
rate for population, exceeded only by Nevada

and Alaska. Does this mean that everyone is moving to these three states, or does it mean that people in these three states have more kids, or just what does it mean anyway?

A few clicks of the mouse changes the map from a comparison of growth rates to a comparison of absolute numbers of population increase. Now Arizona has dropped in rank from third highest among the fifty states in growth percentage, to fifth highest in absolute numbers of new population. Alaska and Nevada are below Arizona in ranking on this map, meaning that while their growth rates are the two highest in the country, they are working off smaller initial population bases. So they don't need a lot of new people to have high percentage rates of growth. This new map shows that California, Texas, Georgia, and Florida all have higher absolute growth in population than Arizona. Clicking (and holding down the shift key at the same time) on Arizona and the four states with higher absolute growth, then selecting "Display Graph" from the Display pull-down menu, brings up a chart showing in somewhat more detail where Arizona really stands. The graph line for California looks like the Space Shuttle fire trail, running clear up to the top of the chart at a total population increase for the 1980 to 1987 period of almost 4,000,000. In comparison, Arizona

Deprotecting USA GeoGraph

First, make a copy of both disks. Then, using a sector editor, such as the one in Copy II+, go to block 83 of the program disk, and change the byte at location 63 from B0 to 80. This allows the use of the program on a hard drive without insertion of the original disk. If you are going to make this edit, remember to do it to a *copy*, not the original disk. Then transfer the newly deprotected copy to the hard drive using the instructions listed on page 31. I used the program extensively from the hard drive in the process of preparing this review, and had no operational problems with the deprotected/hard drive version that I had installed using this edit.

doesn't even get off the ground at approximately 650,000 new people for the same period. Selecting "Data Tables" from the pull-down menu and scrolling over to the "Population Growth" category confirms that while Arizona had an 8 year growth rate of over 24% compared to California's at just under 17%, California starts out with such a larger population base that Arizona's absolute increase in numbers of new people pales in comparison, just as the graph showed.

Now where do all these people come from anyway? Selecting "Display Graph" and choosing the category "Population Born Outside the State," brings up a graph showing the percentage of population that was born outside the state for each of the five selected states. This shows that nearly 70% of the population of Arizona was born outside the state, with a slightly higher percentage for Florida. Another map can be brought up to show the percentage of foreign born population. In this category, California is first among the states with over 15% foreign-born population, but some of the territories, such as Guam and American Samoa, have higher percentages.

"What the heck is American Samoa and where is it?" you ask. One thing does lead to another with this program, and that's what it's all about.

The Good Points

USA GeoGraph is a wonderful educational tool. While it is not intended to be a stand-alone educational product for social studies, it goes a long way towards making the studying a fun, enjoyable, and almost infectious task. The ease of use, which comes from following the Apple Human Interface Guidelines, combined with the descriptive power of the interactive maps, makes USA GeoGraph an extremely high-quality educational program. The programmers have made full use of the graphics and processing capabilities of the IIGS, and packaged it all in a way that gives the student more than just a mush of useless and boring facts. The ability to so easily sort and compare facts in a graphic manner by manipulating the database through the maps is what sets USA GeoGraph apart from more mundane products. MECC calls them "living maps," and while this sounds

like a gross exaggeration, it really does describe the use and purpose of the program. Why?

Facts, in and among themselves, are irrelevant to most students. It's how they compare, how they relate, what trends they show, what directions they lead in, how they affect our lives, and what use can be made of them that make facts worth knowing. The greatest strength of USA GeoGraph is with each answer, and with each revelation, more questions pop into mind and new directions unfold. And USA GeoGraph makes it interesting and easy. In short, it helps solve the age old problem so well elucidated by Leonardo Da Vinci:

"Just as eating against one's will is injurious to health, so study without a liking for it spoils the memory, and it retains nothing it takes in."

USA GeoGraph has so many features that it is not possible to cover them all in one review. Built into the program is a report format generator wherein the specialized maps, charts, and graphs can be printed out in a report format. It gives the student or teacher the ability to create three database categories to add to the 105 existing ones. It will produce maps of regions, close-ups of states, theme maps, quartile maps, and equal steps maps (to find out what those are you'll have to get the program). It allows searching of the database for particular references in any category, and the user can create search rules and criteria to find, compare, and contrast specific information.

USA GeoGraph makes learning easy and interesting. It is as good as any educational product available for the IIGS.

Are There Any Bad Points?

No matter how good a program is, it's easy for a user to want more features or to wonder why a particular feature isn't included. "Why doesn't it do this?" or "Why doesn't it have that?" are common thoughts that run through my mind as I check out programs for review. Well, with USA GeoGraph I am taking to heart the words of Mary Poppins, "Enough is as good as a feast!" Nothing's perfect, but

this program is as good as it gets. With USA GeoGraph, I'd rather use some of this space to compliment the design team and the programmers, than criticize the program features. In other words, the program is so good, any defects or omissions in program features are not worth mentioning.

But, there are two things that you should know about before you buy USA GeoGraph:

First of all, USA GeoGraph is slow in loading. The program is heavily graphic-and data-oriented. As a result, the loading times leave something to be desired. This is a complaint I have with almost all good GS educational software, and USA GeoGraph is no exception. Loading time on a stock ROM 01 single drive IIGS is approximately 2 and 1/2 minutes from booting the program disk to the initial map screen. There is one disk swap along the way. MECC recommends using two drives, but the boot time with two drives to the initial map screen is still almost 2 and 1/2 minutes. Either way requires some time (included in the above figures) to double-click on the program icon once the program disk loads the System Software.

Loading time is considerably shortened when launching from a hard drive. First, make a folder named **USA.GeoGraph**, and then copy the file **USA.GeoGraph** into the folder from the program disk. Then, copy all the files from the information disk into the same folder. You must keep your original disk in the drive while booting from the hard drive or the launching will be interrupted while you put the disk in the drive after the program asks for it. Loading time from a 20 MB hard drive on a ROM 01 IIGS, booting from the Finder under System Software v5.0.2, with a 7 MHz TransWarp was only 17 seconds. With the TransWarp turned off it was 23 seconds. Finally, booting on a ROM 03 machine, from two 3.5-inch disk drives, the time to the first initial map screen was just over 2 minutes.

One way to speed up the loading time of the program when launched from the 3.5-inch disks is to update the System Software on the program disk to v5.0.2. The problem is that the Installer on the v5.0.2 **System.Tools** disk will not do it for you because there is not enough space on the

program disk. But you can do it yourself. The procedure takes only a few minutes, but it will result in reducing the loading time by over 50 seconds each time you boot your newly created USA GeoGraph program disk from a 3.5-inch drive. See the sidebar titled "Updating USA GeoGraph to Use System Software v5.0.2 or Later" for details.

The second bad point about USA GeoGraph is that it's copy-protected. I find all forms of copy protection objectionable, and the protection on USA GeoGraph is no exception. It uses the key-disk method of protection, which forces the user to keep the original disk close by. Well, I have hundreds of disks "close by" and can't seem to find any of them when I need to. That's one of the reasons I bought a hard drive. To MECC's credit, they have provided a set of backups with the program, and they do have a free disk replacement policy. However, the key disk requirement is still annoying, so for those who want to run the program from a hard drive without the bother of putting the original disk (or a copy) in the drive every time. I have come up with an edit to eliminate the disk check. See "Deprotecting USA GeoGraph" for details.

For those who merely want to make an added backup set of disks, it is possible to make a working backup set. I copied the USA GeoGraph program disk using the Copy II+ sector copy (ignoring the error on track 0) and the information disk using the Finder. The copies did boot and run properly. But, when I copied them to a hard drive, and tried to run the program from there, it asked that the original program disk be put in any drive. The copy I had made did a good stand-in as the original, and the program continued to boot.

Summary
USA GeoGraph is good. Really good. For students at the proper age level, for teachers that are searching for a great teaching tool and motivator, or even for adults that want to explore the relationships among the States of the Union, USA GeoGraph combines a lot of information with high-quality graphic maps and ease of use.

This program can open doors and turn on lights. I highly recommend USA GeoGraph.

Updating USA GeoGraph to Use System Software v5.0.2 or Later

To do this you will need three disks: the disk named **System.Disk** from IIGS System Software v5.0.2, a deprotected copy of the USA GeoGraph program disk (see the sidebar titled "Deprotecting USA GeoGraph" for details), and a blank disk. These instructions assume you are using the Finder to do the copying.

To start, copy **System.Disk** onto the blank disk using the Finder. Put **System.Disk** away. Next, delete the files **BASIC.System**, **BASIC.Launcher**, **AppleTalk**, and **Tutorial** from the new copy of the IIGS system disk. Then open up the **System** folder on the copy, open up the **CDevs** folder, and delete everything in the **CDevs** folder. Close the **CDevs** folder and repeat the same procedure with the **Desk.Accs** folder. Then, open the **Drivers** folder and delete the drivers **AppleDisk5.25** and **Modem**. Close the **Drivers** folder. Now copy the **Fonts** folder (the whole folder) from the **System** folder of the deprotected copy of the USA GeoGraph program disk into an open space in the **System** folder on the copy of the IIGS system disk. You'll get a window asking if you want to replace an already existing file of the same name, and the answer is "yes," replace it. Close the **System** folders on both disks. Last, copy the files **USA.GeoGraph** and **Product.Info** from the USA GeoGraph disk into the root directory of the copy of the IIGS system disk. The copy of the IIGS system disk is now an updated USA GeoGraph program disk. You will have plenty of disk space (approximately 60K) to add the desk accessories or icons from the USA GeoGraph program disk if you like, or other desk accessories, printer drivers, or inits you may want on the newly created USA GeoGraph program disk. It is not necessary, but it is a good idea to rename the copy of the IIGS system disk to indicate it is an updated copy of the USA GeoGraph program disk.

RASTAN
Programmed by John Brooks

Retail price: $34.95
Typical mail-order price: $22
Copy-protected (key disk)
Requires 1 MB RAM (1.25 recommended)

Taito Software, Inc.
276 West Esplanade
North Vancouver, B.C. V7M 1A5
(800) 663-8067 or (604) 984-3344

Reviewed by Joe Wankerl

Of all the games I've played on the Apple IIGS so far, Rastan has to be the best by a long shot. The setting is a medieval world where an evil dragon has besieged a city. You are Rastan, a warrior set out to conquer the dragon and the evil monsters plaguing the area. Your only offense is a trusty sword. Your only defense is your strength. Hopefully, you'll find better magical weapons and armor along the way to your ominous clash with the dragon.

But before I get into the actual feel of the game, let me describe some of the trivial, but yet important, aspects of the programming masterpiece. The graphics for this game are *amazing*! Rastan and the monsters he faces are at least two inches high on the screen. The characters all move smoothly and are flicker-free. The background is *very* detailed and scrolls along very smoothly. It's a real wonder how all the animation takes place at such high speeds. The monsters are well-conceived in color and shape. You're not just hacking at bland shapes, you're slaying well-defined monsters. After playing the game for a while, I noticed that every position that Rastan can take on is heroic—a real treat to watch (especially when he's falling and swinging his sword downward).

The audio part of this game is tremendous! The music soundtrack fits the action of the game perfectly. The sound effects really make the game worth playing. In the background, you can hear Rastan's heart beat increase as he gets weaker and weaker from enemy attacks. Sword swings and clashing metal intensify the battle excitement. It's

realistic to hear Rastan heave as he lunges up a vine or jumps over a rock. The sound portion of Rastan alone deserves an award.

So far I've just discussed game features, not what it's like to actually play the game. Playing the game is a treat. The action is fast and exciting. Rastan responds to the joystick very well. Keyboard play is a bit awkward, but it can be mastered with a bit of practice. Each monster has a different attack so you can't have a standardized defense for all your enemies. It really keeps you on your toes. Just when you think you're safe, something else pops out of the woodwork. Luckily there's a pause feature, so when a phone call comes in you don't have to let Rastan die.

I love to go through the game and see how many weapons I can pick up. There are four weapons that Rastan can use. The first is his sword. The second is a battle axe—which is probably the most lethal. The third is a ball and chain which Rastan can use to reach faraway monsters. The fourth, and most exciting, is a flaming sword which sends fireballs across the screen when swung. The only bad part about all the additional weapons is that Rastan can only use them for a limited time, then they will disappear and he will be left with his trusty regular sword again.

Whenever a monster is slain, there is a chance that something magical will be left behind. There are three types of magical armor: the shield, the breastplate, and the mantle. Rastan can only use one of them at a time, and if he happens to run across a more powerful piece of armor, he will drop the lesser to pick up the better. Like the weapons, Rastan can only use magical items for a limited time, then they will disappear. The only way to get it back is to kill another monster and hope he drops it.

Other magical items that will appear are a ring which doubles all points earned, and an ankh which has mysterious properties. I *still* don't know what the ankh does, exactly. There are two types of magic potions in the game, poison and healing.

Obviously, you try to avoid the poison and get as much of the healing as possible. When Rastan is severely injured, you pray that a monster will drop a ram's head, which completely restores Rastan's strength.

There are four levels to Rastan and each level has three parts: A, B, and C. During part A, you are moving to the castle. Part A is the easiest part of the level. The castle round is part B. In the castle there are guards which are a menace to kill and horrid obstacles to overcome. I find that the obstacles are the hardest part of the game. Sliding down an incline and jumping over fiery pits spitting fireballs in the sky then trying to avoid spears emerging from the floor while jumping for a swinging rope is quite a task! And that's without the monsters trying to slice you to ribbons! At the end of the castle, part C, you face a single foe. You will need a different strategy for attacking each one. If there is any place where you will lose the most lives, it will be in part C. It's not that part C is the most difficult (I think part B is), but it's that part C has a monster unlike any you've faced before and it has awesome attack and defense properties. The wizard character in round 3C kept me awake long hours devising a strategy. It's so hard to hit a character that can shield itself from any attack except at one particular time!

Between levels, you get some music and a nice picture of Rastan taking on a majestic pose. Then the next level loads. Loading levels takes a while since ProDOS 8 is used, not GS/OS. Another drawback is that you have to reboot the computer to quit as it has no quit feature. The game is also key disk copy-protected, meaning you have to have your originals on hand if you want to play. Luckily, the game *is* hard drive installable. The instructions that come with Rastan don't tell you how to do it, however. First, make a new folder on your hard drive and copy everything from disk A into that folder. When you're done with that, you will have a folder called RASTAN inside the one you created. There is also a RASTAN folder on disk B that you have to copy to the hard drive as well.

Put everything that is *inside* the **RASTAN** folder on the B disk into the **RASTAN** folder on the hard disk. Then copy everything else from the B disk into the first folder you created on your hard disk. You will, of course, have to have your originals handy when you play though.

All in all, Rastan is a superior action game that is worth its retail price. You won't get bored of it that easily. I have won the game, and I find myself still wanting to go back and play it some more. That seems to be the true test of a good game—how much you want to go back and play it, and Rastan definitely has that appeal.
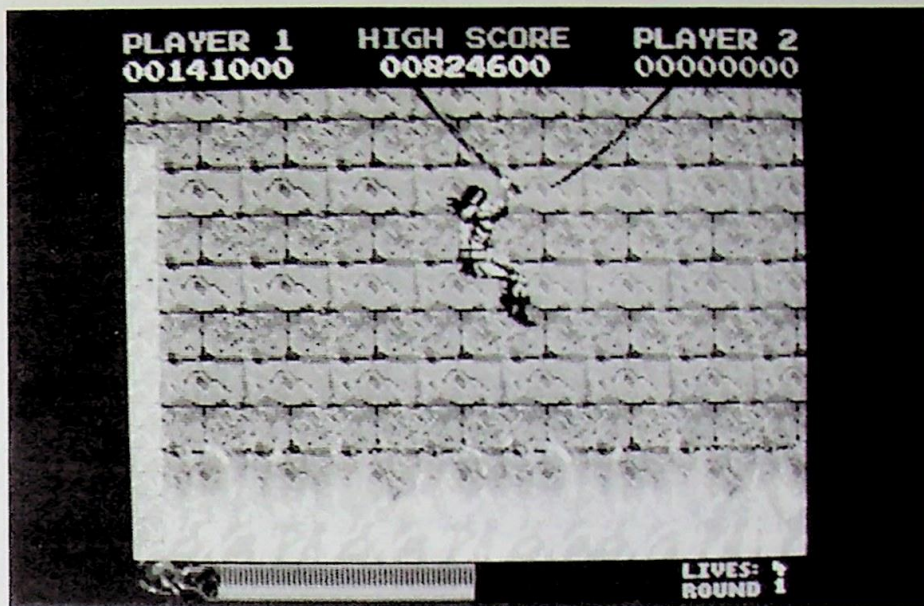
CAPTAIN BLOOD
Programmed by   Philippe Ulrich and
                Didier Bouchon

Retail price: $44.95
Typical mail-order price: $29
No on-disk copy protection
Requires 512K RAM

Mindscape, Inc.
3444 Dundee Road
Northbrook, IL 60062

Reviewed by Dave Adams

Space: The Final Frontier
Captain Blood is a new game from Mindscape that places you in a universe filled with wonder and danger. You are cast as the computer programmer known by the handle of "Captain Blood." In your effort to create the ultimate science fiction adventure game, you created the most detailed playing universe ever known. As you finished the program and attempted to run it, you suddenly find yourself transported into the universe you created. (Holy TRON, Batman!) Unfortunately, you were cloned in the process and you must recover your vital body fluids from your clones to survive in this new universe. Failure to find the clones will result in a slow transformation into a robot. As time passes, your body will begin to degenerate and controlling the game will

become more difficult. The only way to buy time is to recover your clones and body fluids. (Each clone recovery buys you about two and a half hours of real time to continue playing the game.) Successful recovery of all five clones will allow you to continue to live as a human and meet the lovely Ondoyante female named Torka. She will then provide you with . . . let's just say a happy ending.

The Good Stuff
First of all let me say that Captain Blood is going to overwhelm you in many areas. It has superb graphics, good sounds, and a richly detailed and superior game world. A lot of effort went into designing this game and it has resulted in a truly outstanding game. From the manual and quick reference card to the last byte of code, this game is incredible. It is even more amazing when you consider that it comes on one disk and only requires 512K of RAM.

Captain Blood's manual and quick reference card are very well-written and informative. They quickly and easily explain how the game is played and provide a lot of hints. Game play is relatively simple and clearly outlined.

One of the most impressive aspects of the game is the detail in which the gaming universe was created. Each time

the game is started, the planets are randomly shuffled. This makes it just about impossible to use notes from previous games and always makes each game different. There are over 3200 planets that you could visit and 14 alien life forms to meet. Each alien group has its own language and social customs that you must figure out in order to converse with it. Conversing with aliens is accomplished through the use of the UPCOM (Universal Protocol of Communication) icon system. This system of 120 icons allows you to communicate basic ideas to aliens. Icons are selected by pointing and clicking. When your sentence is complete you then transmit it to the alien. All conversations are accomplished in this manner.   While the method of conversation is quite simple, many times the content of conversation can be quite maddening. Each alien race has its own quirks at communicating. Some are very intelligent and easy to communicate with. Others are complete babbling idiots and require infinite patience in dealing with them.

When the game first begins you are located next to an inhabited planet. This is the only time in which you are given a "freebie" during the game. All other information has to be learned through communicating with aliens. If you cannot find the coordinates for another

inhabited planet, your chance of finding one on your own falls to about one in five hundred. It pays to be pleasant and talkative when dealing with most aliens. You must pilot a OORXX (a creature that does your communicating for you) to a designated landing spot on the planet. At the landing site, the resident alien will appear to converse with you. On many planets, the OORXX will be attacked by missiles on the flight in. Missile can be avoided by flying "nap of the earth" (hugging the contours by flying low to the ground). On all planets the OORXX must be guided into the landing site by your abilities. An OORXX can only take so much damage before it is destroyed. Missiles that are not avoided automatically destroy your OORXX. Fortunately, you have an unlimited supply and can start the approach again with a new OORXX. Once an OORXX has landed it remains on the planet and can be reactivated whenever it is needed.

Travel between planets is accomplished by using hyperspace. The hyperspace animation sequence is an incredible thing to watch. However, watching each sequence eats up the time that you have left until you must find and destroy another of your clones. In other words, watch it once and then skip the rest of them. A similar piece of advice should be followed if you decide to destroy a planet. (Your ship has this capability). The destruction scene is wonderful but it eats up your time. Think carefully before you blow up a planet, you may need to return to it later in the game.

The graphics in the game are consistently incredible. The only place where the graphics are fairly poor is the OORXX approach sequence. The contours of the planet are little more than lines on the screen. However, the rest of the game more than makes up for this shortcoming. As a matter of fact, I really enjoyed just flying around the galaxy and looking at the planets. They are wonderful animations to look at and give you a nice "Star Trek" feeling—and you don't have to worry about Klingons either.

After you contact an alien, you must find the coordinates for the next planet and try to locate your clones. The worst part of talking to the aliens is learning the lingo used in the game. It makes Tass Times in Tonetown look simple. Communicating with some aliens can be downright frustrating. Some aliens will require you to assist them by performing a task. Others can be "persuaded" to talk by transporting them to other planets. Leaving them on these planets (alone) causes them to be very cooperative when you return. If you find a clone you then transport it into the fridgitorium (a suspended animation device) and disintegrate it. Only clone fluids can be assimilated into your body. To make things a little more complicated, there is only room for one lifeform in the fridgitorium at a time.

The Bad Stuff
There is not that much to complain about with Captain Blood. The game boots fairly quickly and plays very smoothly. The only disappointing section is the OORXX animation. The backgrounds are not exciting and the operation of the OORXX gets fairly boring, even with missiles coming at you. The sounds could be improved but are not really detracting from the game play. I came across one bug while playing: if you decide to save your game and cancel the operation, your arm

(which acts as the mouse pointer in selecting actions from the various control panels) starts shaking (exactly as if you were running out of time) when you return to game play. In my case, it corrected itself in a few minutes, but it does cause a slight problem until it is corrected. Also, the game uses a "look-up-the-word" form of copy protection that is a minor irritation.

Probably the most frustrating part of Captain Blood is the communication with the aliens. Sometimes the combination of the icon system and an idiotic life form can get really aggravating. It does pay to take good notes throughout the game. On the whole the good points about this game far outweigh the faults.

Summary
Captain Blood is a very good game that I recommend for anyone looking for a change of pace from the average adventure game. It is an excellent combination of game play and innovation to the gaming field. The graphics are simply amazing. The universe is well thought out and richly detailed. If you have the time to play adventure games, check this one out.

HOSTAGE: RESCUE MISSION

Retail price: $39.95
Typical mail-order price: $29
No on-disk copy protection
Requires 512K RAM

Mindscape, Inc.
3344 Dundee Road
Northbrook, IL 60062
(708) 480-1948

Reviewed by Dave Adams

Background Information

Back when I was in the Army, my platoon used to practice missions that were called NEO missions. NEO stood for Noncombatant Evacuation Operations. These were missions in which we were to extract American civilians from dangerous situations with minimum force and maximum efficiency (such as the Marines practiced recently in Liberia). We really didn't like these missions because we usually trained to shoot first and ask questions later. During these operations, we almost invariably ended up killing some of the civilians (it was simulated of course) when they would get in the way of us and the bad guys. Occasionally, we would accidentally catch them in the same room as the enemy and they usually didn't survive the encounter. We much preferred the regular combat operations training because you didn't have the extra problems that civilians presented in a NEO. As a result of this training, I can appreciate the difficulties that SWAT teams and Special Operation forces that deal with these missions face. It is very difficult to coordinate a successful operation in which all of the civilians are safely extracted, the bad guys are captured or eliminated, and your people are safe. HOSTAGE: Rescue Mission does a very good job of simulating such operations.

Terrorists have stormed the Embassy and taken an unknown number of Embassy personnel hostage. The negotiations have broken down and it's time for the Special Operations folks to set things right. You are the leader of a six-man team that must infiltrate the Embassy, rescue the hostages, and eliminate the terrorists (no moral dilemmas here folks, you gotta kill 'em
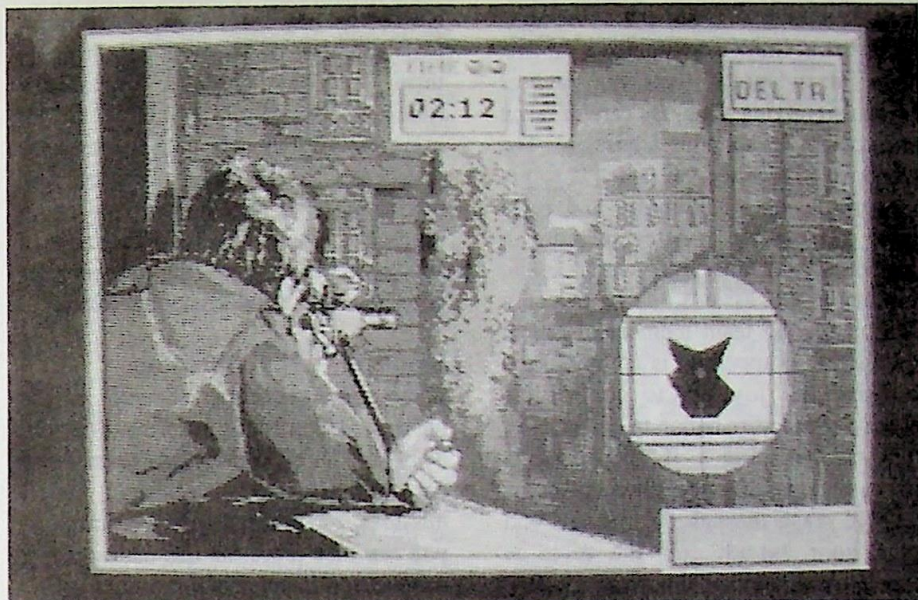
all). Your performance must be flawless. You must first establish positions for your marksmen to cover the assault. After that has been accomplished, the Direct Intervention Team will conduct an assault on the Embassy and rescue the hostages. You will have a limited time in which the mission must be accomplished.

There are three levels of difficulty (LIEUTENANT, CAPTAIN, and COMMANDER). Each level has 5 missions that vary in difficulty. The missions range from TRAINING (no hostages in the building, only terrorists) to ASSAULT (many hostages, many terrorists). You can only access the CAPTAIN and COMMANDER levels after you have successfully accomplished the ASSAULT mission of the previous level. Successful accomplishment means that no hostages or team members died in the operation. After a successful ASSAULT mission, you will be given a code to allow you to proceed to the next level.

Stage I - Positioning the Marksmen

During this stage, you must position three marksmen to cover the Assault Force. Each man must cover one side of the building (the fourth side is blocked by another building). Terrorists have spotlights (Doesn't every Embassy have 10 to 20 of these things lying around?) and are scanning the surrounding streets to find

you. If a spotlight crosses you, a hail of bullets will follow. Your Kevlar vest can only block so many bullets before you go down. If a man is killed, you can then either position the remaining men and proceed, or abort and start the game again. You can move your men by using the joystick or the keyboard. A variety of movement techniques can be used to avoid the spotlights and get into position. Your team members can run, roll, dive, and hide in doorways along the way. Don't take too much time getting into position because the Assault Force will need all the time that they can get. The time remaining is displayed in the corner of your screen. After you have positioned your marksmen, you can proceed to STAGE II.

Stage II - Getting Into the Embassy

The next stage is the toughest part of the assignment. After the marksmen are placed, you are treated to a nice scene of the air assault. (These terrorists must be deaf if they can't hear a chopper hovering overhead) Your Direct Intervention Team rappels onto the roof of the Embassy and prepares to rappel into the Embassy itself. At this point, you can have your marksmen scan the windows on each floor for the side that that marksman is covering. This is a good way to determine which rooms are occupied and which rooms are not. Occupied rooms will show a silhouette pass across the window. You

have the option of firing and eliminating the target in the window or holding fire. If you fire and hit the target, you will hear a groan signifying a hit. Be careful—you may actually be shooting a hostage! The only way to identify the target is to get someone inside the Embassy and get a visual verification. After selecting a member of the Direct Intervention Team, you begin the assault. You select a position for the team member to rappel down from. Rappelling is accomplished by using the joystick to control the descent, and the fire button to bound away from the building. If the room is unoccupied and you rappelled correctly, you will crash through the window and begin your assault. If the room is occupied you will probably be shot before you can get in the window. Surveillance is important.

Stage III - The Assault

After crashing in, the assault begins. You are presented a view of one side of the room that you are in. A map of the entire floor is available to you. This mini-map will display both terrorists and hostages throughout the floor at the LIEUTENANT level. (After getting promoted you will only see terrorists or hostages when you are in the same room.) At any time you can switch back to another team member by pressing the key that represents him. This is a good way to eliminate terrorists (at the LIEUTENANT level) after you know what rooms that they are occupying. From there on, the plan is simple. Kill terrorists and take the hostages one at a time up to the safe room on the third floor. You can only move one hostage at

a time. Hostages can only move when a team member or terrorist accompanies them. You have unlimited ammunition (thank goodness) and control your fire using the joystick. Try not to shoot the hostages. Teamwork between the marksmen and the Assault Force is essential. If you are controlling one man and another is in danger, the computer lets you know who to switch control over to.

Stage IV - The Outcome

After you have either secured all the hostages, killed all the terrorists, or gotten all of your Direct Intervention Team wiped out, the final screen will appear. On all missions except the TRAINING mission, you can then press the fire button to get an assessment of your performance.

The After Action Report

Hostage is a simple game to comprehend and fairly simple to play. Winning the game requires strategy and good tactics. I like to think of this game as a thinking man's Task Force. You get to blow away a lot of bad guys, but you had better know what you are doing. This game is a lot of fun and has enough difficulty variables to keep it interesting. It reminds me of those tense moments in training for the NEO missions. It is a really nice simulation. The graphics and sounds are very good and add immensely to the overall game play.

The game does suffer from a few nagging problems. The boot up time is not bad, but after the documentation check it does take a minute or two to load. Game play is smooth and the animation is good. The wait between STAGE I and STAGE II is

terrible! It takes about 2-3 minutes to load this section of the game. To be fair, it does a great job after the loading, but there must be some way that Infogrames can speed this up. The manual does a good job explaining the operations of the game and suggesting tactics. Unfortunately, the manual does not mention the Apple IIGS (or any other II for that matter) once. The manual has explicit instructions for the IBM, Amiga, Atari, and Commodore line. Most of the commands are the same but the GS version could use an addendum or reference card at the very least.

Conclusion

This is a really nice game, despite the drawbacks mentioned in the previous section. I recommend this game as an alternative to mindless shoot'em-ups. This is an intelligent shoot'em-up that simulates special operations quite well. So take a few minutes to work out your foreign policy frustrations on some terrorists. You'll be glad you did.

Hostage Command-Keys For Apple IIGS

To Control	Press
DELTA	Z
ECHO	X
MIKE	C
HOTEL	V
TANGO	B
BRAVO	N

Press "P" to Pause the game. Press any other key to resume. The other game controls are the same as for the IBM PC (see the Hostage manual for details).

QUESTMASTER
THE PRISM OF HEHEUTOTOL

Programmed by Bob Dronski, Brian A.
Rice, Roger Surbaugh, and Perry Pariso

Retail price: $49.95
Typical mail-order price: $25
No on-disk copy protection
Requires 768K RAM

Miles Computing, Inc.
5115 Douglas Fir Road, Suite I
Calabasas, CA 91302
(818) 340-6300

Reviewed by Dave Adams

Questmaster is a fantasy role-playing
game (FRPG), the first in a series of
Questmaster modules. Although it has
some nice features going for it, the game
suffers—I think that "suffers" is a good
word for it—from many faults that detract
from the enjoyment of the game. But
before we hack it apart, let's look at the
facts.

The Basic Stuff
Questmaster comes on three 3.5-inch
disks. The disks are not copy-protected.
A documentation check is necessary before
game play may begin. (More on that
later.) You will need some sort of
program launcher, such as the Finder, to
start the program. It is not directly
bootable from a floppy disk. It is hard
drive installable. The manual is fairly
well-written but is pretty skimpy in the
area of setting up the plot line. It does a

good job in detailing game play and how
to deal with the parser (a line at the
bottom of the screen in which you type
the actions that you wish to take, such as
"Look at table," "get book," etc.). All
commands are entered through the parser.
After you type in your command, the
computer takes the appropriate action.

Your quest is to stop Colnar from taking
over the universe. Colnar is "the being
who rules all evil, controlling everyone
and everything." He is not a nice person.
You are Terna, the last of the Tellasien
race. You must travel throughout the
world of Ardnod and find the prism of
Heheutotol. With this and other items
(that will be available in the follow on
modules) you will eventually be able to
destroy Colnar.

The Bad Stuff
The first thing that annoys you about
Questmaster is that you cannot boot it
directly from the floppy drive. The
program must be launched from the
Finder. All three disks are almost
completely filled with data. Miles
Computing should at least ship a system
disk for those GS owners that might need
the latest version or for persons that are
new to the GS. The Finder confuses
many people, yet most new users know
how to do a cold boot. The reasoning
behind this decision escapes me. Perhaps
the reason is economic or perhaps Miles
Computing must give us credit for having
the intelligence to be able to accomplish
launching a program. Either way you still

can't directly boot the program. After
about a 3-minute wait, you reach the title
screen (which isn't too bad and has a nice
sound track) and the documentation check.
Now I can live with a documentation
check as long as it works properly.
Unfortunately for Questmaster, the
documentation check feature has the
tendency to outdo itself in enforcing the "I
don't trust the consumer" policy of copy
protection. To put it in plain English, the
thing often goes haywire and asks you
such things as "Look on page 119, count
down to line 209, and tell me the 241st
word." That would be OK if such a word
existed. Unfortunately, there are only 15
pages in the manual and about 40 lines to
a page. If you miss the word then you are
immediately taken back to the Finder.
Similar checks in other programs give you
more than one chance. Why does
Questmaster have to limit you to one
chance with a faulty check routine? This
should have never gotten past the beta-
testing stage. It's bad enough not to be
trusted, but when they abuse you with a
faulty check that you actually paid for, it
just gets you frustrated.

OK, assuming that you got a decent
documentation check and you successfully
passed it, you are finally allowed to play
the game. Now you get to deal with the
dreaded parser. The manual goes to great
lengths to explain to you the wonders of
the parser that you will use. To be fair
there are many keyboard equivalents and
shortcuts that you can use. Unfortunately,
a parser by any other name still reeks.
The main fault of a parser is that you
must figure out what commands it
recognizes and adapt to its language. You
are also forced to be extremely specific in
what you type into the parser. At one
point I could not unlock the door with my
key unless I typed in "Insert key into hole,
unlock door, open door." It would not
accept "Unlock and open door." Another
nice feature that aggravates you is the
timed rooms. These rooms only allow
you to stay in them for so long before
something comes along and kills you.
All it takes is a bad command or
misspelled word going into the parser to
delay you and get you killed. Once you
are killed, you are treated to a really nice
death scene (featuring some fine

Only now do you understand...
my warriors are everywhere.
On Ardnod, you have no friends,
no one to confide in, no one to help!
No one! More...

animation) and you get to start all over again. You can save and restore a game in progress, but to discourage that the game keeps track of how many times that you save your game, how many times that you die, and how long it takes you to finish the game. If you save your game many times, die on a consistent basis, or take a really long time to finish, you do not earn as many experience points for your character as someone who plays all out and gets lucky. This might play a factor if you use your character in a future Questmaster module. In summary, parsers are inherently frustrating and a poor choice for a game that features timed rooms.

Other bugs include New Desk Accessory support that causes the game to lock up, sudden and unexplained game lockups that force you to reboot and restore, strange disk swaps if you are using NDAs (asking you to swap disks and then nothing happens), and the inability to recognize a UniDisk as a drive. At one point in the game, all of the graphics disappeared and my screen went to the normal blue background with the last text items in white along the side. As soon as I touched a key, it all came back again. Talk about spooky! With the exception of the NDA disk swaps (which may be caused by the NDAs themselves), the other bugs should have been caught before the game was

released. The ending of the game is very poor and disappointing, despite some nice animation. Basically, you go back to where you started and your character is retired for the next module. These guys must be optimists.

Some Good Stuff
The sounds throughout the game are pretty good, even though the program does not support stereo cards. The program allows you to toggle the sounds on and off throughout the game play. Keeping them on does not significantly slow down the game. The game has very good graphics even though they do tend to look distressingly close to EGA graphics—it uses 320-mode graphics throughout the game. The graphics tend to look like a Saturday morning cartoon show with the requisite "cute" creatures. The evil monster types offer an excellent contrast to the cute characters. They look fairly nasty (except for the wildebeest which looks like Puff the Magic Dragon—and I don't mean the gunship). The animation in the game is really smooth and nice to watch. The plot line is decent (except for the ending which is a major let down).

Movement in the game is very easy. You may use a joystick, the parser, the mouse, or the numeric keypad to travel throughout the game. One of the nice features is that

you can actually go around or behind objects. Keep in mind that the directions of East and West are reversed on this planet. You can save your game in progress, but you must have a blank disk handy. You can load or save a game at just about any point in the game. You may have up to 10 characters on a disk. A good idea is to have one or two characters that do all of the experimenting (and die a lot) figure out the right path and then let another character start and play using the knowledge from their misadventures.

The Bottom Line
You can't help but get the feeling that this game was designed to set the stage for the follow-up modules without regard for its ability to stand alone. It is similar to watching *The Empire Strikes Back*. It fulfills its purpose, but you get the feeling that you've just spent a few hours doing a lot of things but not accomplishing anything. I can't recommend this game based upon nice animation, art, and sounds when the game interface is so frustrating and bug-ridden. Save your money or, better yet, buy 2088: The Cryllan Mission. The ending isn't so great either, but getting to it is a hell of a lot more fun. Let's hope that Miles Computing gets the interface fixed before they release the next module. Until then, I can't recommend this game to anyone.

PIPE DREAM
IIGS version by Visual Concepts Ltd.

Retail price: $49.95
Typical mail-order price: $20
No on-disk copy protection
Requires 512K RAM

Lucasfilm Ltd.
Games Division
P.O. Box 10307
San Rafael, CA 94912
(415) 662-1902

Reviewed by Tim Moore

FLOOZ, yeah that's what it's called, *flooz*. Of course, they want me to connect all these pipe pieces together to keep this green goop flowing. Why, I'll never know. Such is the life of a plumber in Lucasfilm Games' new program, Pipe Dream. This fast action, strategy game has more twists and turns than there are needles on a porcupine. (How's that for imagery!)

You have a playing field divided into a grid pattern. Somewhere on the grid is a starting tube from which you must begin connecting pipe pieces that appear in a dispenser on the left side of your screen. There are a variety of pipe pieces that will come sliding down the dispenser. The dispenser shows your current pipe piece, as well as the next three pieces you will get. You can place the current pipe piece anywhere on the playing field, unless there is an obstacle built into the play field. You can even place a new piece on top of a previously placed pipe piece, as long as there is no *flooz* flowing through it, and it will replace the old one. The pipe piece shapes can be straight, elbow, T-shaped, and four directional. They may even allow the *flooz* to flow through in one direction only, in which case the will have an arrow on them showing the direction of flow. By connecting the different pipe pieces together as one continuous pipe, you create a tube for the *flooz* to flow through all around the screen. Points are awarded for each pipe piece the *flooz* travels through successfully. However, points are subtracted for pipe pieces that you placed on the field that the *flooz* did

not flow through, so place your pieces carefully.

There are a total of 36 different levels in this game. Each level has a minimum number of pipes that must be connected continuously before advancing to the next level. If you connect more than the minimum number of pipe pieces, you get extra points added to your score. There are ways to earn other bonus points depending on which pipes you use, where you use them, and how you make the *flooz* flow through them. If you don't use the minimum number of pipes necessary, the game ends. Some levels have openings at the screen edge for flowing the *flooz* from one side of the screen to another, such as going off the left edge of the screen and appearing on the right side. A few levels may have a bubble shaped reservoir in the play field to which you can connect your pipe pieces. The *flooz* must fill up the reservoir bubble before it will continue on in its journey, which gives you extra time to place more pipe pieces.

Game play is great, with nice graphics and sounds. The action can get fast and furious, especially when you are still trying to place the minimum number of pipes for a level when the *flooz* starts sloshing through the pipe tube. The strategy aspect is much like Tetris in that you must plan ahead to assure the continued flow of the *flooz*. You can use the mouse, joystick, or keyboard. You can even define which keys you want to use on the keyboard and save those settings to the disk. There are one-player, one-player expert, and two-player competitive/cooperative modes. The two-player mode allows you to help one another or try to sabotage your opponent. Each player has a specific color for their pipe pieces. A player receives points only if the *flooz* flows through their colored pipe piece. However, the number of pipes necessary to complete a level is the same and is not dependent on the color of the pipe piece, but just the number of pieces the *flooz* travels through.

As great as this game is, there are some annoyances. The first is the copy

protection. Although the program disk itself is not protected, you must use a code wheel to begin the game. This is preferable to on-disk protection, but it leaves one vulnerable to the "missing code wheel" syndrome. Also, although the game disk is not copy-protected, it cannot be launched from the GS/OS Finder desktop. The program must be booted directly from the floppy drive, which will be an annoyance for hard disk owners (like me!) who want to either quit back to the desktop, or install the game on a hard drive and run it from there. Another problem is having no way to quit, or exit, from the game to a launcher or program selector. You must reboot the machine to switch to another program. If you choose to redefine the keyboard layout, you must do so for both players if you want to use specific keys that may be currently used by one player's layout. For example, if I want to change the player one default key for placing a pipe on the play field from the 0 key to the spacebar, I must change the settings in player two's layout first (because player two is using the spacebar) before I can use it for player one. This is even true if I am playing a one-player game. Thank goodness you have the ability to save the layouts, although you can only save one setting.

Overall, this is really a great game. Those of you who do not have a hard drive will have no problems with it. Those who have a hard drive may be inconvenienced, but it is still a worthwhile game. A very nice touch by Lucasfilm is to include the 128K Apple IIe/c 5.25-inch disk version and the 512K Apple GS 3.5-inch disk version in one package. If they would add support for hard drive owners and GS/OS, this would be a first-rate game. So get out your pipe wrench and see if you can handle the pressure. I wonder what's in this green stuff . . .

THE IMMORTAL

Programmed by Will Harvey and
                Brent G. Durrett
Graphics by   Ian Gooding and
                Michael Marcantel
Music by   Doug Fulton

Retail price: $49.95
Typical mail-order price: $33
No on-disk copy protection
Requires 1 MB RAM and a joystick

Electronic Arts
P.O. Box 7578
San Mateo, CA 94403-7578
(415) 572-ARTS

Reviewed by Tim Moore

Back, foul creature! Take that and that and that! Wait, no don't do that! Arrrgggghhh—dead again! Sometimes I like the challenge of a game, but I really do hate it when I die. Such is the life of a computer gamer though. You can't even escape computer death in Electronic Arts' new game: The Immortal. This is primarily an action game based loosely on the Dungeon and Dragons theme. You are a wizard in search of your master/teacher, Mordamir. You haven't seen him in ages, but a strange dream makes you feel he is alive, but trapped in a bottomless cavern. You set out to find him. Solo. Alone. By yourself. Why you would want to place yourself in such a potentially dangerous situation is beyond me, but I guess it makes for an interesting story line. Anyway, this means that this is a one-player game.

The game begins in what appears to be a dungeon room. A candle flickers in front of you and an image of Mordamir rises from the flames, then vanishes. This is supposed to indicate that he is somewhere in this dungeon. So off you go to search for him. The graphics are stunning is this game. Smooth animation, superb color mixture, and fine detail are used throughout. This is impressive programming. Why can't more companies do this? Walls look like walls, shadows lurk everywhere, weapons and equipment look distinct. Even the flames of torches and candles flicker in a lifelike manner.

You view the game in a slightly three-dimensional perspective. If you were to take a square box and hold it directly in front of your face, then turn it from left to right until one corner was facing your nose, then tilt it downward a couple of inches so that you could see into the box, you would understand the perspective of the game (or you could avoid this bizarre example and cheat, by looking at a magazine screen shot or at the back of the package).

The sound quality is very good. There is an excellent soundtrack, which can be turned on or off with a keystroke. The other sounds in the game (doors opening, swords clashing, etc.) are good as well.

You control your wizard with the joystick. Because of the angled view, movement and combat may seem odd at first. Your wizard carries a large dagger (or perhaps it is a short sword) at the beginning of the game. When fighting hand to hand, you can jab or slash at the enemy, or you can try to parry his swing by leaning away from his weapon. There are many items that you can find as you journey throughout the dungeon. You may find magic scrolls with spells you can cast, rings with magically powers, even elixirs with special abilities. You have a knapsack to hold all of your goodies (and this appears to be a mighty *big* knapsack!) To use an item in the knapsack, you call up a sub-menu and move a cursor to the item you want to select. Each sub-menu screen shows five items and an option for moving to the next sub-menu screen. Some items can only be used in a certain place, others may have a limited number of uses.

When you complete a level (there are eight all together), you are given a certificate number to write down so that you may restart a game at that particular level, instead of having to start from the beginning every time. A nice touch, although this is basically a replacement for a save game option. Sometimes I would rather have a save game option instead. Some parts of the game can be difficult enough that you may not want to try it again once you have successfully gotten past that part. If you don't

advance to the next level, you will have to redo everything from the beginning of the current level. Perhaps I'm just being picky, though.

You will encounter many creatures such as goblins, trolls, worms, and even a dragon. There are many traps and some secret exits hidden throughout the game. Sometimes you will find helpful clues as you travel. The manual has practically a step-by-step walk-through of the first level to help get you started. The back of the manual also contains "The Codex of the Serpent," which gives you many hints for each of the levels in the game. In all the manual is fairly well-written, with several screen shots and drawings to illustrate different parts of the game.

Unfortunately, as in life, the game is not perfect. The two game disks are not copy-protected. Rather, you will be required to type in sequences of letters from different pages in the manual during play. So far, this seems to occur at the end of each level. This is better than on-disk protection, as you can make a backup of the game. However, hard drive owners will be dismayed, as the program cannot be run from the hard drive. As a matter of fact, the game cannot even be launched from GS/OS. There is no file to start the program. The only possible file you can launch is the **DOS8.SYSTEM** file, and the computer hangs if you try to run it. This means that you must boot the computer from the 3.5" drive with your game disk. Since there is no formal *exit* from the program, you will have to reboot the machine if you want to quit. I'm getting tired of software publishers not properly supporting GS/OS and hard disk drives.

The most difficult part of the game is the combat sequences. Since you are in a semi-three-dimensional setting, your character can be facing in several directions when you begin to fight. This can add confusion to your joystick movements. The joystick directions will be reversed, for example, if your wizard is facing you, as compared to having the wizard's back facing you. If you push up on your joystick, you jab at your opponent. This seems to do little

damage if you get a successful hit. It's best to use the slash move; however, this is a more difficult maneuver. You must pull back on the joystick, then push forward to complete the swing. Doesn't sound like a hard thing to do, but your on-screen character doesn't respond as fast as you can move the joystick. He has to go through the full animated motion of swinging his weapon. Even harder is trying to parry, which makes your character lean out of the way of the opponent's swinging weapon. You have to take into account which way your character is facing, and time it just right. Fighting is hard, and you will die many times before mastering the technique properly.

Another thing I found annoying is when I move the character on top of an object and the computer doesn't recognize that I'm standing on it. Sometimes you have to move your character around a little before it senses you are standing on something, like a gem. This can make things frustrating if you are trying to retrieve an object while other creatures are chasing you, such as the green slime (which moves awfully fast for slime, if you ask me).

Also, if you are walking by a door, the computer sometimes sends you through it, even if you are not trying to enter. This is attributed to the slanted three-dimensional perspective of the game. It's as if you were sliding along a wall, bumping into it until you found an opening to stumble through. This can be a major hassle when it happens at an inopportune moment, such as when another creature is on the other side of the door.

Finally, I think the certificate number given at the end of each level is too long. It consists of 13 characters that can be either numbers or letters. This probably wouldn't be so bad if they used a different font to display it on the screen. As such, it can be difficult to read sometimes. And is it really necessary to make it so long? Wouldn't an eight-character number be just as good? I mean, there are only eight levels to the game, why such a long number?

Despite these problems, overall the game is good. It has excellent graphics and sound, good animation, and challenging play. I would recommend this for most game players, especially those who like a challenging action game. Plan on spending many hours trying to solve this one, partly because of the challenge of exploring the dungeon, partly to master the controls. Now, where is that troll that killed me . . . aaaa ha . . . oh no, not again . . .

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PIRATES!
Programmed by Sid Meier

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Typical mail-order price: $29
Copy-protected
Does not work on a ROM 03 IIGS
Requires 256K RAM

MicroProse Software, Inc.
180 Lakefront Drive
Hunt Valley, MD 21030
(301) 771-1151

Reviewed by Dave Adams

The Basics
PIRATES! is a game that has been around the GS market for a few years. It is a combination of an arcade game, a strategy game, and a role-playing game. You are cast as a 17th century privateer (a sea captain authorized to attack enemy merchant shipping). Your job is to create havoc amongst your enemies and acquire wealth and fame. With enough luck you might even rise from the lower class to the nobility. As you begin your career you will encounter adventure, combat (both naval and land), treasure, and even a bit of mystery. PIRATES! comes on a 3.5-inch disk. It is copy-protected and there are also documentation checks. It supports amplified sound but is not true stereo. Most of the game play can be accomplished by using the joystick or the mouse.

The Good Stuff
The greatest thing about PIRATES! is that you are playing an incredibly detailed simulation that is much more like a game than a simulation. Considering that PIRATES! is from the same folks that brought us Silent Service, this should come as no surprise. Like that excellent game, PIRATES! is easy to play while maintaining a rich variety of excitement. I find myself coming back to play this game quite often. The game has a large amount of factors that can be changed to constantly provide new

YOU DECIDE TO ESCAPE THIS LIFE OF DEBT SLAVERY. YOU ASK SOME LOCAL SEAMAN ABOUT JOINING THE 'BRETHREN OF THE COAST.' "AYE MATE," THEY REPLY, "BUT DO YOU KNOW WHEN THE SILVER TRAIN ARRIVES AT PANAMA IN 1660, MR. DIZ?"

difficulties or challenges. Quite simply, this is never the same game twice.

When you start PIRATES! you must decide certain things before you can begin your life of adventure. You have the choice of starting a new game (from scratch), continuing a saved game, or commanding a famous expedition. Most of the famous expeditions start you with large crews and several ships. They are a good way to learn the basics of game play. You assume the role of one of the greatest privateers of the Spanish Main and attempt to equal or better their exploits. You generally have ample force to do so but you must plan your actions carefully. If you choose a higher difficulty level, you might have your hands full just keeping your crew happy and avoiding mutiny. If you start a new game, you must first select a historical period. The default period (1660) puts you in the Golden Age of Piracy. This is the easiest period to make a successful career. Spanish power has declined and the other European nations have established areas that you may use as a base of operations. Other periods range from 1560 to 1680. Each period has unique characteristics that impact game play. Most of these characteristics revolve around Spanish military power

and the power of the rival European nations (France, England, and Holland). Choosing any one period will have a direct influence on the difficulty of the game play.

After choosing which age you will operate in, you must assume a nationality. You may choose to be an English Sea Dog, a French Buccaneer, a Dutch Privateer, or a Spanish Renegade. Choosing a nationality does not necessarily mean that you must follow the course that your nation wants you to follow. (Ah, the benefits of being a pirate—you do what you want to, when you want to.) You can plunder the ships and colonies of your own nation if you really need the money. Of course, this does make your nation a bit hostile towards you and your crew. Your nationality has more of an impact on what ports are available for you to trade and recruit crew members in. You can only recruit new members in the ports that you are on friendly terms with. You must also sail into town to recruit new members (more on that later). After choosing your nationality, you must then specify your family name (the name that you will go by in the game) and choose your difficulty level. The level you choose will directly influence the amount

of gold that you receive whenever you divide up your plunder. You will get much more booty at the higher levels of difficulty. At the same time you have a much higher chance of failure. The last choice that must be made is determining your special skill. You may choose from fencing, navigation, gunnery, wit and charm, and medicine. Choosing any one skill makes that portion of the game easier for you. It is always wise to choose fencing. After this last decision has been made, you are ready to begin your career at sea. You must first acquire a ship and crew. This is accomplished through a sequence in which some pirates ask you for some information (a nicely incorporated documentation check) and you must battle a sea captain to gain his ship. This is your first of many fencing battles.

The Ancient Art of Warfare
Combat in PIRATES! takes one of three forms: fencing (individual sword fights), naval engagements (ships attacking ships), and land warfare. Each of these types has its own unique rules and strategies. Fencing allows you to engage the enemy leader/captain in single combat. Your performance in this stage affects the morale and performance of your crew's fighting. If you do well, then your crew fights better. If you do a pin cushion impression, then your crew fights poorly. The winner of the fencing duel is the winner of the overall battle. At times in the game you will duel other persons. They will generally provide you with information afterwards.

The Naval engagements follow the realities of 17th century naval warfare. You must keep the wind direction and speed in mind at all times. Different ships have their own ways of sailing. Knowing the advantages and disadvantages of each type of ship can make this phase much easier. Combat is generally accomplished through exchanging cannonades and then boarding. Once you board, the fencing sequence occurs between you and the enemy captain. If you win, you may keep the ship (which depletes the number of your crew) or plunder it and sink it. Losing the battle can have dire consequences.

It is possible to sink the enemy ship without boarding (losing any chances of plundering it) or to break off combat by fleeing. Sometimes cannonading a ship to a point of helplessness will cause its crew to strike their colors. This allows you to plunder/capture the ship without having to battle the enemy Captain.

You can attack enemy forts or towns by running your ship through the enemy cannonade and landing forces near the enemy fort. If you are successful in this, then you engage the fort commander in a fencing sequence. If you land too far away from the fort, your crew will refuse to attack and it will not be a pleasant experience for you.

You can also attack towns from overland. Land warfare is accomplished in a way similar to standard war games. Your crew is broken down into various subgroups. You can engage the enemy directly by moving your groups into the same area as the enemy or you can play it safe and set up ambushes and make them fight you on more favorable terrain. The latter keeps your forces stronger and whittles away at the enemy strength. Terrain can vary from a swamp (which slows forces down), to woods and towns (that provide cover and concealment), to clear (no cover, but allows fast movement). Eventually, you must storm the enemy fort and battle the enemy commander in the fencing sequence. Having a larger force with strong moral is a great advantage. The winner of the fencing duel wins the battle. Losing the duel will have grave consequences on you and your crew.

If you have an extremely large force and you are attacking a much weaker force, you can even replace the town's governor with one that you choose (from any nationality). This is a good way to build your prestige with your country or another country.

Traveling around the Spanish Main and Caribbean is easily accomplished by using the mouse or the joystick to sail your vessel. The wind direction and type of vessels in your fleet affect your freedom of travel on the seas. There are storms and hurricanes that can take you

out of your way and put you in dire straits (literally). It is possible to run aground or crack up on shallow reefs. In addition there are enemy ships, pirates, and pirate-hunters that you will have to contend with.

Make Peace, Not War
Although you will spend a great deal of time in combat, there are times when it is better to negotiate than to fight. Keeping this in mind will result in having many safe places to go whenever your luck turns bad. Each port that you find can be either a friend or a foe. Friendly ports allow you to sail right in. Hostile ports (ones from an enemy country or that you have previously plundered) will generally greet you with a 21 gun salute aimed at your head if you attempt to sail into them. It is possible to sneak into these ports and conduct your business. You can almost always visit the governor (although you might not like what he will say) and trade with the local merchants. The Spanish merchants don't always trade with pirates. This is especially true in the more prosperous areas. There are generally enough ports in the fringe areas that turn a blind eye to your nationality. The economic status of a town (which can change during the game) has an effect on the prices and military strength of the port. In addition, towns suffer from Indian attacks, malaria, and other pirate raids. These events are picked up and distributed in the local tavern gossip. Each of these events has an effect on the town. Taverns are useful places to pick up news, gather information on cities and towns, and recruit new crew members (only if you sailed into port and are on friendly terms with the city). You can even buy old treasure maps in some taverns.

The governor will usually provide you with the latest in political happenings and can grant you ranks and titles based upon your exploits. It is possible to advance into the nobility through your actions as a privateer. They can also offer amnesty for your piratical exploits if their country has announced this policy. The best part about visiting the governor is chatting with their daughters. If you are witty and charming enough they will provide you

with valuable knowledge on your return trips. If you are successful enough you can even marry one of them and increase your social status. Turning in captured pirates, whom you will encounter on the high seas, will also enhance your prestige with the Crown. Governors can also provide you with information about lost members of your family. Track these people down! They can really enrich your life if you find them!

The manual that comes with the game is well-written and informative. It explains every aspect of game play and sets up the rich historical background to the game. The game also comes with a nice map of the Caribbean and the Spanish Main.

The Bad Stuff

This won't take too long. The worst thing about the game is that it functions under ProDOS 8. Since it is an older game the graphics and sound are not as great as most GS games in the current market. Keep in mind that this game first came out in 1987. An upgrade in these areas would make the game extremely incredible. It is copy-protected. It will not run on a ROM 03 or under System Software v5.0.2. Most of these faults are due to the age of the game.

The Bottom Line

PIRATES! is a great game. It combines the thrill of an arcade game (the fencing sequences) with the strategy of a war game (land and naval combat) and the interaction of a role playing game (the advancing of your character and interaction with the governors and others). The excitement and adventure never ends. There are a plethora of difficulty options available to you when you play that make it an ever-changing challenge. Shall you try to be a peaceful merchant or a plundering pirate? The choice is up to you. I really loved this game. I only wish that the graphics and sound would be upgraded. The only drawbacks are due to the ProDOS 8 operating system that the game uses. This is far outweighed by the great fun of the game. You can even get it at a great price now. This game is very much like Silent Service. It keeps you coming back for more. And that quality is what makes a great game.

Random IIGS Programming Notes

Other than that, the two protocols are identical. The protocols for 1K and 4K employ fall back and step up logic when errors occur. This means that if there are more than two consecutive errors, the packet size is reduced from 4K to 1K or from 1K to 128 byte sends. After 7 consecutive correctly sent packets, the packet size will increase from 128 bytes to 1K or from 1K to 4K. When the transfer is nearing the end and you are using a 1K or 4K packet size and the final data to be transmitted is less than the packet size you are using, Transfusion will automatically fall back to a lesser packet size to minimize the amount of additional padding characters that will be sent. The maximum amount of additional data to be sent will be 127 bytes since the smallest packet size that can be sent is 128 bytes. This is, of course, a worst case.

The number of blocks to send that is displayed in the transfer window is the number of *complete* 1K or 4K packets to send. If the packet size switches due to errors, or a final fall back to minimize additional padding, the block count *will not* increase until a full 1K or 4K has been sent. The receiver counts the *absolute* number of packets received, not the number of full 1K or 4K packets sent, so the blocks sent count and the blocks received count will almost always be different. The bytes sent will always (with a maximum difference of 127 as explained above) be the same.

As always, if you find any problems, or can think of any enhancements you'd like to see, be sure to let me know! If you have a problem, be sure to fill out the problem form provided on the *GS+* disk so that we can have a better idea of what your problem is and how to fix it.

And There You Go!

The EGOed update, complete with TML Pascal II source code, is on your *GS+* disk in the folder, **EGOed**. The Transfusion update, complete with ORCA/C source code, is in the folder **Transfusion**. For more information on

installing these updates on your system disk, refer to "How To Use The *GS+* Disk" on page 20.

In the last few weeks, several new subscribers have asked that we place documentation for updated programs on the *GS+* disk. (This is an understandable request—not everyone has been reading *GS+* from the first issue!) Since your wish is our command, this is exactly what we will be doing. On this issue's *GS+* disk, in the **EGOed** and **Transfusion** folders, you will find ASCII text files that completely document the use of both EGOed and Transfusion. These documentation files cover all features off these programs up to and including the ones discussed above. We will update these documentation files with each new version of these programs and provide them on future *GS+* disks. *This* column will still be used to explain each update in detail, but the documentation files on disk will contain complete *user* documentation.

By placing this documentation on the disk, however, we are removing the last real protection we have had against piracy of the *GS+* disk. *Please* don't give away copies of the *GS+* disk for *any* reason! If you do, there will be very little reason for people to subscribe, and in turn, very little reason for us to produce *GS+* Magazine.

Remember, we want to know what you think! If you find a bug in one of our programs, be sure to fill out the problem form on your *GS+* disk and send it to us. And, if you have a suggestion for an enhancement to any of our programs, send that in too!

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