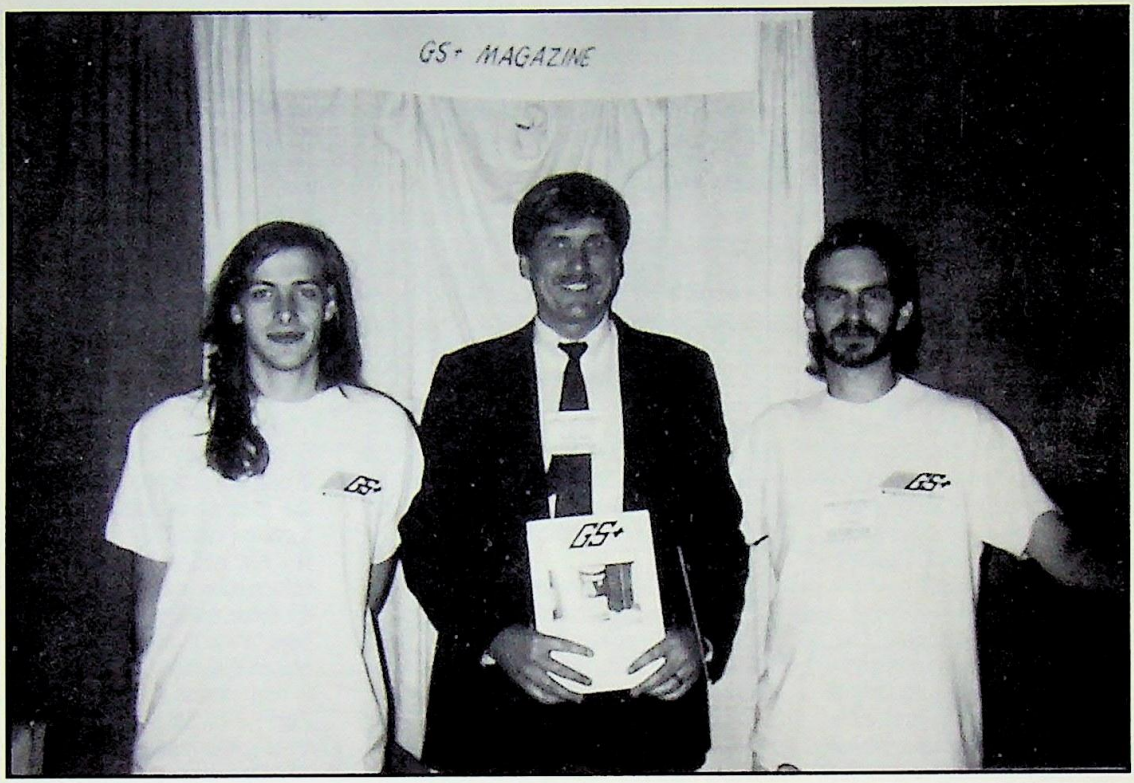
GS+™

September
October
1992

Volume 4
Number 1

The *First* Apple IIGS® Magazine + Disk Publication!

Jam-Packed 3rd Anniversary Issue!
Filmed On Location At The First Annual Apple EXPO East!



Starring The Programs

Autopilot v2.0 • Open From Desktop • II Notes
Quick DA v2.1 • EGOed v1.7.1

Script By The Reviewers Of

ContactsGS • GSymbolix
Kangaroo • ORCA/Debugger • UltraCat
Storybook Weaver: World of Make-Believe

And Introducing

Apple IIGS Heartthrob *Paul Statt*!

(centerfold on page 53)

Writer's Block

By Steven W. Disbrow

Just A Baby

With this issue, *GS+* Magazine is three years old. Wow. To be honest, I wasn't sure that we'd make it this long. Most small businesses fail within the first year. However, our business is actually growing, thanks in part to the fact that I've finally started letting more folks know that we exist. Thankfully, it seems that people are glad to find out about us. For example, I've been told that a 1% response to a direct mailing is fabulous. We got a whopping *10%* response to our first direct mailing and almost 95% of those respondents ended up subscribing. Not bad at all. Our next big advertising push will be the 1992 CarePak, produced by Nite Owl Productions which is going out to 15,000 IIGS owners.

Good Clean FAX

Yes, boys and girls, we've purchased a FAX machine! After three years of waiting for the right model with the right features and generally just being FAXless, I decided to take the plunge. Of course, you probably just want to know what the phone number is, when you can call it, and how you can use it. The number is (615) 843-3986, and you can use it 24-hours a day to FAX us your orders, letters, problem forms, feedback forms, or just about anything else that's related to *GS+* Magazine. (Warning! If you send us one of those FAX chain letters, I'll cancel your subscription and FAX you back a picture of a very rude gesture—no joke.)

In addition to the FAX machine, I've hooked up an answering machine to *all* of our phone lines (a neat trick) so that if you call after hours you can leave us a message. If you get the machine, *please* leave a message and *please* leave us your phone number or e-mail address so that we can get back to you the next day. Also, if you call and *don't* get the answering machine, or the FAX machine, or a human, it probably means that we are in the midst of an electrical storm and have everything unplugged. Just try again the next day.

No Bad Disks

As you may know, for the last four months or so, there has been a shortage of 3.5-inch, 800K, double-sided, double-density floppy disks. I haven't been able to find out exactly *why* this is, but there are a couple of good rumors . . .

Whatever the reason, obtaining 800K disks has been a real chore lately and, when I was able to find them, they had a failure rate of well over 10%. Fortunately, thanks to the fine folks at Big Red Computer Club, we've finally been able to find a new supplier that provides top quality SONY disks with no delays in shipping. Of course, they cost a bit more, but the fact that we've only found two bad disks in the 2000+ that we've used so far more than makes up for the higher price.

Speaking of bad disks, some of the disks that went out with *GS+* V3.N6 were the older disks and you may have some trouble with them. (The older disks were gray in color.) Of course, we did our normal 20% verification while we were copying all of the disks, but some bad ones still may have gotten through. If you *ever* get a bad disk from us (of any color), let us know about it and we'll get a replacement out to you right away.

New GEnie Areas

If you get on GEnie, stop by and see us in our new expanded online support areas. Just go to page 645 (the A2 area), enter the bulletin board and set category 33. If you are a programmer type, go to page 530 (the A2Pro area), enter the bulletin board and set category 33.

Also, don't forget that we provide support on America Online (use keyword GSMAG) and Delphi (send e-mail to GSPlusDiz). Compu$erve? Sorry, no one's invited us over there yet.

Now On Video Cassette

Last issue, I mentioned a "secret" post-KansasFest project that we had been working on with the folks at Resource Central. I was able to talk about it in the **a.Read.Me** file, but it's such a neat product that I think I ought to tell you about it here too.

During the "entertainment" that we put on at KansasFest, we had the foresight to videotape each event. So, with the help of the folks at Resource Central, and the help of Dave "Binary Bear" Ciotti, and Linda Botez (and all the folks that signed their release forms), we put together "The 1992 KansasFest Special Events Home Video!" This video not only shows the entire Roger Wagner Roast, and Apple Shop Skit, and Programmer's Song, it also includes Uncle DOS's interview with Steve Wozniak! It's a total of 2 hours, 18 minutes and 55 seconds of quality family entertainment.

Which of course brings us to the price and how to get your copy. According to my latest Resource Central catalog, the price is $24.95 and you can order yours by calling the folks at Resource Central at (913) 469-6502. It's really a great tape.

Reprints Revisited

OK. I'm about to give in and reprint one of our sold out issues. As far as I know, no one else *ever* does this (except for Marvel Comics), so I want to make sure we do it right. We will re-edit the issue in question to correct any spelling errors and generally try to just clean things up. The only question I have remaining is *which* issue should we reprint? Which issue do *you* want to see reprinted? Send me a FAX, or a letter, or some e-mail; or fill out this issue's feedback form, or give me a phone call to let me know which issue of *GS+* Magazine you want us to reprint first. I'll keep a running total and let you know the results in the next issue. (Note that if we don't get many votes, it will seriously reduce the chances that we ever do *any* reprints.)

And Finally . . .

Over the last three years, we've gotten quite a few letters detailing problems with one or another of our programs. Generally, these letters had three things in common: They were angry, they used really colorful language, they were no help whatsoever in fixing the problem. So, Joe came up with the idea of including a special problem form on each *GS+* Disk that folks could fill out and send in to give us all the information we needed to track down and fix these problems. For the most part, it's been a very successful idea. The main reason that it has not been more successful is that almost no one sends in a problem form! You have no idea how frustrating it is to get letters that say something like, "EGOed crashes on me whenever I'm in the Finder and I have 2,000 fonts installed. What's the problem?" Unfortunately, these letters don't say much else.

Frankly, it's depressing. We really *do* try to do our best to make our programs work right the first time and we also try to fix all bugs as quickly as possible. Including the problem forms for folks to fill out is the best way we know to get the information we need to fix any problems that do crop up. However, if people don't fill them out and send them in, they don't work. So, the next time you have a problem with one of our programs, *please, please, please,* fill out and send in the problem form! *GS+*

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GS+ Magazine

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Volume 4, Number 1

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On The Cover
Paul Statt, Senior Editor of *inCider/A+*, shows us that he has no hard feelings (about last issue's cover) at this year's Apple EXPO East!

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Letters

Usually, we have more letters than we know what to do with, and this was especially true for our last issue. However, we had to bump some of them to make room for the very important letters that we got from Joe Kohn and Matt Deatherage. So, I've decided to print some of the letters that we got regarding V3.N5 that we didn't have room for in the last issue.

Dear *GS+*,
Thanks for another great issue! I'm especially pleased that the bug preventing Cool Cursor from working on my system was fixed . . . .

In reply to your response to the letter from Thomas Lay in your May-June 1992 issue, I'd like to ask you to keep the dates you put on your issues, instead of going to volume and issue numbers only.

Being a publisher, you know how the date on a magazine really has no relation to the contents of that periodical. Most magazine publishers put a date on their magazines that corresponds to the period of time that a retailer is supposed to keep those issues on display. Secondary to that, when the date on the current issue expires, the reader knows to go look for the next issue. Of course, since your magazine is not sold through retail channels, neither of these reasons for assigning dates to an issue are relevant.

However, having dates on a magazine that is only available by mail serves other purposes. For one, it serves as a good reference point when looking through back issues. Without a date somewhere in the magazine, it is difficult to tell how current the information in it is, beyond the latest issue. Also, it can be much easier to find information about events in the past when you can reference back issues by date. Dates are also a standard way to cross reference information contained in various magazines, newsletters, newspapers, and other periodicals. Having only a volume and issue number, a magazine is cast off into a kind of limbo or world of its own, with no external connections to anything else.

Instead of removing the date from every issue altogether, I would actually ask that you change the dates you use to conform to the majority of the publishing industry. This would make it much easier to cross reference information contained in your magazine with other sources, find information in back issues, and provide a better sense to the reader of the timeliness of each issue's content.

It would also be more helpful if you yourself referred to back issues within your magazine by date, instead of by volume and issue numbers. Saying "See our V2.N5 issue" is much more confusing than saying "See our May-June 1991 issue."

. . . In the "Casual 6" article, it's recommended that extensions that only work in Finder be kept in ***:System:FinderExtras**, and extensions that can work outside of Finder be kept in ***:System:System.Setup**. There's a few reasons you didn't think of for putting them in one or the other of those places. First off, extensions in the FinderExtras folder are only loaded when Finder is running. This saves some memory when you're not in Finder, but at a cost of some time when loading Finder (it took an extra 5 seconds on my system to load Finder with 200K of extensions, with a Zip GS, Apple DMA SCSI Card and Quantum 105LPS hard drive). Having them all in your ***:System:System.Setup** folder adds those few seconds to your boot time only. If you boot into Finder, there will be no difference in boot times, but returning to Finder after launching another application will be a little faster. Also, having Finder extensions always in memory allows other applications, like DAs, to call them with `finderSaysBeforeOpen` messages, providing you with a bit of new Finder functionality in other programs. The NDAs called IR NDA and FExt NDA are both examples of this. Obviously, if a person has the memory to spare, I'd recommend they put all of their extensions in their ***:System:System.Setup** folder. By the way, you forgot to mention the ***:System:FinderExtras** folder under "Finder Extension" in the glossary at the back of the magazine.

Here's some advice regarding the **BASIC.Launcher** file being needed by some programs: Simply make a copy of **BASIC.System** in the root directory of the boot volume and call it **BASIC.Launcher.** Everything will then work fine.

Lunatic E'Sex
Palo Alto, CA

Thanks for the letter! In response to your comments about our cover dates, I can only say that I agree that it's nice when a magazines cover dates reflect the timeliness of the contents. That's why we do things the way we do. This issue, the September-October 1992 issue, covers what happened in September and October of 1992. You can't get much more timely than that. However, if we ever manage to get on newsstands, I suppose that we would have to conform to the way the majority of the publishing universe does things (in which case, this would probably be the January-February 1993 issue.)
Diz

Diz,
I just received *GS+* V3.N5 and have a few comments . . .

. . . [Regarding your instructions on] How to get System 6—I would appreciate it if, in future issues, you would clarify the option of getting System 6 from a user group. Just as you can only distribute System 6 to disk customers, the user group license allows distribution of System 6 (and any other Apple System Software) to *user group members only*. Although some user groups will distribute System 6 to anyone (and call them temporary or visiting members), many groups like ours (The Northwoods IIGS User Group) will distribute to members only. (We have a $15 annual membership fee.) In addition, Apple allows user groups to charge a minimal "copy fee." Considering the number of disks in System 6, our group cannot possibly take the time to duplicate System 6 to anyone who brings in their own disks. We make up sets of six System 6 disks (the sixth disk is a basic bootable **SYSTEM.DISK**), all of which are labeled with labels designed and printed with AppleWorks GS. We also include 3 printed pages of information—one of which is the copyright information which Apple requires to be distributed with the System Software (although very few user groups actually do so), and the other two contain useful hints and tips on System 6 use that have been gathered from online sources such as GEnie & AOL. We charge $5 for this package-which just about covers the cost of the blank disks, labels, and photocopying. So please, don't continue to suggest that people "Take your own disks and they shouldn't charge anything for it." We don't distribute System 6 that way, and many other groups may not either . . .

Dale R. Barker
Northwoods IIGS User Group
via America Online

[First of all, I need to point out that I've presented Dale's comments here completely out of context (this was taken from a long *letter). In this form, these comments sound like they came from an angry letter-hack,* they did not. *Dale's a great guy and I don't want my editing to make anyone think otherwise! Having said that . . .]*

You got me dead to rights Dale. It was a mistake to make such an all-encompassing statement. My apologies to you and all of the other hard-working user groups out there. Hopefully, my rewrite of "How To Get System 6" (which appears in this issue) is a bit more on target.
Diz

Dear *GS+*,
I am writing this letter mainly for the readers of *GS+*. I have heard through reading *GS+* lately, that many readers find the introductory or instructional section a "waste of ink" or a bore. I consider myself a reasonably experienced Apple IIGS user who has just entered the world of programming recently. I think that although I skip over much of the instructional sections of *GS+*, that many experienced users should think twice before recommending that Diz wipe out these sections. Because the more readers that make use of these sections, the more familiar they become with their GS. This is good for everyone because then, they may not hesitate to use their GS as much, therefore purchasing more software, which provides more support for GS users all over. And what's wrong with educating people about the computer they own? I must say that I am most disappointed with the attitude people have taken on about other users. Let's switch the perspective, and see how you would like it if you didn't know very much about the GS and your fellow GS users turned their backs on you! *GS+* is not your magazine, it belongs to everyone who subscribes to it. I don't mean to preach but I think that beginners deserve just as much attention as experienced users. It's just like school. If all the smart people said, forget the younger people who don't know anything, eventually, you don't have very many smart people left! It's a group effort to keep the IIGS alive. II Infinitum!

Evan Trent (Age 13)
via America Online

Dear Mr. Disbrow:
I consider your article on using Pointless with a LaserWriter ["TrueType On A LaserWriter," *GS+* V3.N5] very valuable. I will now purchase Pointless where as before I would not have purchased it. You've really opened up a new world for me. Are you considering a StyleWriter review? It has better resolution than that of my LaserWriter NT. I'm curious as to how it performs. . . .

Charles Bartley
Lake Havasu City, AZ

Glad you liked the article! (Contributing editor Mark Ranes deserves some of the credit too. He's the one that put me on to the whole idea.) As for the StyleWriter, what I've read in the Mac magazines is that it's one slow doggie, even slower than the ImageWriter. However, it does have better resolution than most laser printers (360 dpi for the StyleWriter versus 300 dpi for most laser printers.)

The biggest problem with using a StyleWriter with the IIGS is that the StyleWriter driver that comes with System 6 is, um, incomplete. For example, it does not support printing in landscape mode! Based on that, and letters like the one below, I have been reluctant to buy a StyleWriter. However, if someone out there has a StyleWriter and would like to write us a review, I'd love to publish it!
Diz

Dear *GS+*:
. . . My problem is this: when I print a word processing document that is fully justified, [to my] StyleWriter, I get a justified left margin, but a ragged right margin. The ImageWriter II prints the document just as it is supposed to. The problem exists whether you use bit-mapped or TrueType fonts. What gives?

Kenneth B. Rundle, D. D. S.
Peachtree City, GA

Here again, this sounds like a case of the IIGS StyleWriter driver not being up to standard. Perhaps we'll see an improved version in either a future System Software release, or perhaps Vitesse or Seven Hills will put out an improved StyleWriter driver as part of their respective printer driver packages (Harmonie and Independence).
Diz

Dear *GS+*:
Thoroughly impressed on how you handle your renewal of your publication. I also subscribe to *A+/inCider* and they will send me a renewal notice 12 months before my subscription runs out and this will happen again every 3 or 4 months until I send them the renewal payment. I like what you said about saving some trees, cause they sure are disappearing fast. . . .

Rick H. Jenkins
Anaheim, CA

For those of you that haven't come up for renewal yet, Rick is referring to the fact that we only send out one renewal notice, about two months before your last issue is mailed out. This gives you about four months to renew before you start missing issues. (In other words, if this is your last issue of GS+ *Magazine, you should have gotten your one-and-only renewal notice about two months ago.) We used to send out two renewal notices, but it quickly became obvious that the majority of folks that were going to renew always did it immediately.*

And, like Rick said, trees are becoming very scarce. Which is another reason we only send out one renewal notice, and why we try to recycle as much of our waste paper as we can. I also hope to one day begin printing GS+ *Magazine entirely on recycled paper. (And I will as soon as I can find a reasonable price for it!)*
Diz

Dear *GS+*:
A new users' group has been formed in England with the aim of linking and helping Apple IIGS users (especially those in the U. K.). Its scope will include both 16-bit and 8-bit programs, and one of the major activities will be to provide bi-monthly "members' disks" containing a wide range of IIGS-related materials. The annual subscription is £10 (U. K. members' rate). Anyone interested should contact either the group's secretary (Richard Dix, 23 School Road, Heacham, King's Lynn, Norfolk PE31 7DQ, England. Phone: 0485-72253), or the coordinator (Peter Stark, 41 High Street, Great Shelford, Cambridge CB2 5EH, England. Phone: 0223-843429).

Professor B. P. Stark
Cambridge, England

If you have a question, comment, or criticism about *GS+* Magazine, we want to hear it!

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 with your letter.* Please address all letters to:

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Autopilot v2.0

By Josef W. Wankerl

An update to my handy-dandy program launcher, Autopilot (last seen in *GS+* V3.N1), has always been in the back of my mind. Many of you have requested changes to Autopilot, and I wanted to put in a few nifty features as well. So I finally sat down and did it—an almost complete rewrite of Autopilot. This new version of Autopilot takes advantage of some new System 6 features, so it requires System 6.

Some Installation Required

To install Autopilot, use the Installer program on your *GS+* Disk. If you need help using the Installer, see the "How to Use your *GS+* Disk" article in this issue. Autopilot will then appear the very next time you restart your computer (unless you've used the SetStart control panel to boot into a different application—but I'll discuss this a bit later).

Autopilot Theory

Autopilot is a complete replacement for the standard System 6 **Start** application. The normal **Start** application simply checks the system's message center for the name of an application to launch (this information is posted by the SetStart control panel at boot time). If there is an application to launch, the **Start** application launches it. Otherwise the **Start** application simply quits to the Finder. Autopilot does pretty much the same thing, in that it checks for a message from the SetStart control panel, but if Autopilot doesn't find a SetStart message, instead of quitting to the Finder, Autopilot presents its own launch list. Because of the fact that Autopilot does not quit to the Finder when a SetStart message is not found, you'll have to think a bit differently about the SetStart control panel. With Autopilot installed, when the SetStart control panel is set to launch *Finder* (that's the italic Finder at the top of the SetStart control panel's pop-up menu), it really means to launch Autopilot, since Autopilot has replaced the Finder as the default startup application. (This confused me too, so I used Genesys to edit the rPString resource ID $00000001 in my SetStart control panel and changed it from "Finder" to "Autopilot.") You can still use SetStart to automatically launch other applications on boot, but you'll most likely want to use Autopilot's more flexible autolaunching mechanism instead.

History 1.0-1.1

I first wrote Autopilot because I wanted a quick and easy way to switch my default startup application under System Software v5.0.4 (long before SetStart and System 6). It started simply as a small program that would check the state of a modifier key and either launch the Finder or the ORCA shell. Before long, Autopilot had a front end allowing a list of applications to choose from.

Eventually, Autopilot supported the posting of messages to the message center, so that when you launched, say, AppleWorks GS, you could pass it the name of a frequently used word processor file and it would be automatically opened. I was extremely happy with the way Autopilot v1.0 and v1.1 worked, but when System 6 came out, I saw plenty of places where Autopilot could take advantage of new features. Besides, I really wanted to do a general maintenance update too, so Autopilot ended up receiving a complete overhaul.

User Documentation

The Autopilot desktop is composed of a standard menu bar and a window containing a list control and a few buttons. The menu bar is the easiest to describe, so I'll start there. Under the multicolored Apple menu, you will find the usual About menu item, a Help item, and all of your New Desk Accessories (NDAs). The Help item will bring up a window letting you select topics from a pop-up menu. Each topic that you choose will display text in a TextEdit control that describes how Autopilot works. If you ever get stuck, refer back to this article (especially the examples at the end) or choose Help and read.

The File menu has the normal items of Open, Print, Close, and Quit, plus an an additional item labeled Launch. The Launch menu item displays a Standard File dialog box allowing you to select an application that you would like to launch. When you choose an application, Autopilot will quit and launch the application that you selected. (Note that your system speed will not be changed and memory will not be purged. We'll discuss these options later on.) The Close menu item, as you would expect, closes the front window. The main Autopilot window, however, cannot be closed. The Quit menu item shuts down Autopilot and returns to the application that launched it, just like the quit item in any other program. If you have Autopilot installed correctly, quitting Autopilot will take you back to the simple program launcher that is built into System 6. The Open menu item does the exact same thing as the Open button in the main Autopilot window, and I'll defer explaining both the Open and Print menu items until after I've described the Open button.

The Edit menu is provided for NDAs—Autopilot does not use this menu.

The Special menu allows you to change the Autopilot preferences and either restart or shut down your system. When you select the Shutdown menu item, all removable disks are ejected from their drives and a restart dialog is presented. When you select the Restart menu item, your system is simply restarted—no disks are ejected. When you select the Preferences menu item, a preferences dialog is displayed on your screen. I will defer the description of the Autopilot preferences until after I've described the launch list and how autolaunching works, since it won't make much sense until you know a little bit more about how the new Autopilot works.

The Launch List

The main Autopilot window is dominated by the launch list. You can add new launch items to the launch list with the New button, remove items from the launch list with the Delete button, and edit existing items with the Edit button. Previous versions of Autopilot maintained a one-to-one correspondence between an item in the launch list and an application to launch. That way, when you wanted to launch an application, you simply selected the item from the launch list and told Autopilot to launch that item. Autopilot v2.0 does things a bit differently. Autopilot v2.0 has an item definition dialog which defines exactly what happens when you attempt to open an item. (Autopilot does not necessarily launch an application when you open an item from the launch list anymore.)

The Item Definition Dialog

When you choose the New button from the main Autopilot window, you will be presented with the item definition dialog. This dialog looks very intimidating at first, but it's really very simple to navigate. There are four distinct parts to the item definition dialog: the item name section, the application definition section, the data file section, and the confirmation section.

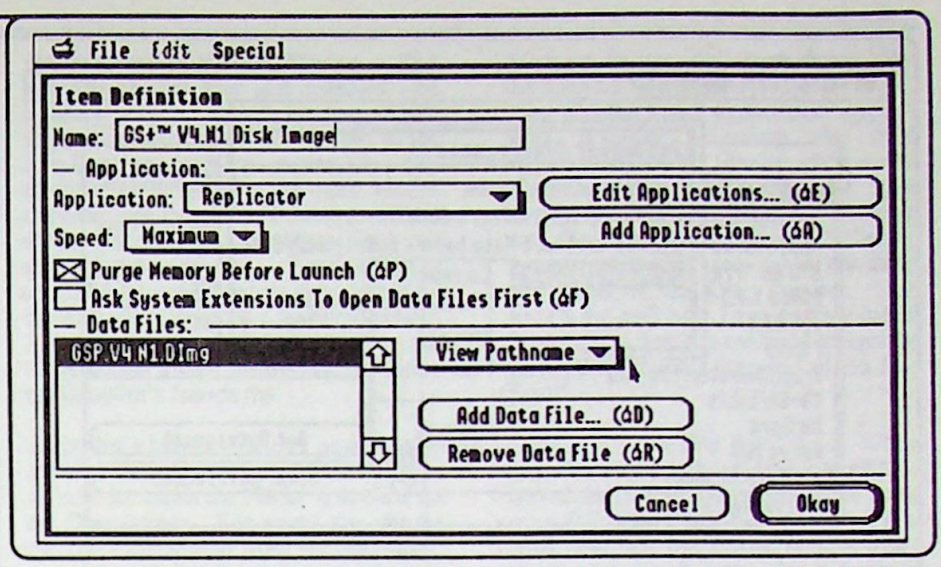
At the very top of the item definition dialog is the item name section: a

LineEdit control. The LineEdit control contains the name of the item as it will be displayed in the launch list. If you select an application from the application section (either from the pop-up menu or by adding a new application) and the item name is empty, the name of the application will automatically be used as the item name.

Underneath the item definition section is the application definition section. The application definition section is used to assign an application to launch when the item is opened. When you have an application assigned to an item and you open the item from the launch list, the application you have assigned will be launched. To choose an application, simply select one from the Application pop-up menu. Note that you can have the application defined as "*None*" so that instead of launching an application, Autopilot will attempt to have a system extension (an NDA, control panel, etc.) handle the item. For complete information on how the opening process works, see the "Opening" section below. To add a new application to the Application pop-up menu, click on the Add Application button. If you want to edit the name of an application that you have added, or you want to delete an application from the Application pop-up menu, click on the Edit Applications button (the Edit Application dialog is described later). Once you've chosen an application from the Application pop-up menu, you can define *how* you want the application launched.

The Speed pop-up menu sets the speed at which the application will run. Right before Autopilot quits, it sets the system speed to match what you have set in the pop-up menu. Note that if the "Ask System Extensions To Open Data Files First" check box [described below] is checked, the system speed will not be changed during Autopilot's attempts to find a system extension to handle the item. The system speed is only switched when Autopilot actually quits to another application.

The "Purge Memory Before Launch" check box controls whether Autopilot will purge all purgeable blocks of memory before launching the selected application. Purging memory is a good idea only when you're about to run an application that will require lots of memory and you don't have much memory in your IIGS. For example, whenever I run our disk duplication program, Replicator, I purge memory (since Replicator requires large chunks of memory), but whenever I run anything else, I don't. Purging memory is generally a bad idea because restartable



programs (like the Finder) may have purgeable memory lying about that will take time to reload.

The final application preference, "Ask System Extensions To Open Data Files First," controls whether Autopilot will send `finderSaysBeforeOpen` and `finderSaysOpenFailed` requests before launching the application. For more information on how this affects the opening process, see the "Opening" section.

Underneath the application definition section is the data file section. The data file section is used to define which data files will be opened or printed. To add a data file to the list, you can click on the Add Data File button. To remove a data file from the list, simply select the item you wish to remove in the data file list control and click on the Remove Data File button. You can view the pathname of the currently selected data file by pressing and holding the mouse button on the View Data Path pop-up menu. Selecting an item from the pathname pop-up menu has no effect.

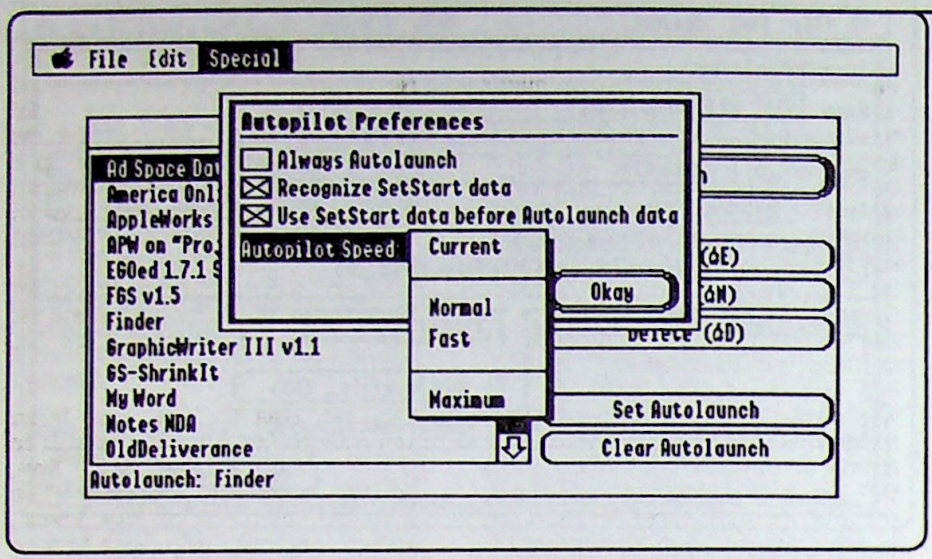
At the very bottom of the item definition dialog is the confirmation section: the Cancel button, the Okay button, and any "error" messages. Whenever the Okay button is disabled, a message will appear in the confirmation section telling you why the Okay button is disabled and what you can do to enable the button.

Edit Applications

When you click on the Edit Applications button, you will be presented with a dialog that lets you rename and delete applications that will appear in the item definition dialogs's Application pop-up menu. To rename the item in the Application pop-up menu, select it from the list, type the new name in the LineEdit control, and finally click on the Update Application button. Note that you're just renaming how Autopilot presents the name of the application to you, you're not actually renaming the application itself. To remove an application, select it from the list and click on the Delete Application button. Note that the Delete Application button will be disabled if any of your item definitions contain a reference to the application you have selected. If you want to delete the application, you must first remove all references to the application from your item definitions.

Opening

To open an item from the launch list, you can double-click on it, you can click on the Open button, or you can choose the Open menu item from the File menu. No matter how you tell Autopilot to open an item from the launch list, the same thing will happen. First, Autopilot checks the "Ask System Extensions To Open Data Files First" setting for the selected item. If this box is checked, Autopilot sends a `finderSaysBeforeOpen` request for the first item in the data file list. [Editor's Note: `finderSaysBeforeOpen` requests are special messages that an application can send out to let system extensions know that the user wants to open a file. If a particular system extension knows how to open that type of file, it can. Note that *any* application can send out this message, however, its official name is `finderSaysBeforeOpen` since it was first used in Finder v6.0. `finderSaysOpenFailed` requests (discussed below) are similar, but they are used to tell system extensions that no one else was able (or willing) to open the file.] If the request was accepted, it then proceeds to the next item in the data file



list and sends another `finderSaysBeforeOpen` request until all data files have been accepted. If a `finderSaysBeforeOpen` request was not accepted, Autopilot then launches the application that you have specified in the item definition. If the application is set to "*None*," then Autopilot sends a `finderSaysOpenFailed` request for the data file that was not accepted. If the `finderSaysOpenFailed` request was accepted, processing continues by sending a `finderSaysBeforeOpen` request for the next item in the data file list. If the `finderSaysOpenFailed` request fails (for any one file in the data file list), Autopilot stops sending the requests and displays an alert saying that a data file was not accepted.

If the "Ask System Extensions To Open Data Files First" setting for the selected item is turned off, or if a `finderSaysBeforeOpen` request is rejected for a launch list item that has an application associated with it, Autopilot will then post the open messages to the message center so that the data files will be opened by the application; memory will be purged if necessary, the system speed will be set, and Autopilot will quit to the specified application.

When you select the Print menu item from the File menu, the exact same steps take place as when opening, except that a print flag is set when sending the finderSays requests, and a print flag is set when posting the open messages to the message center, so that the data files will be printed instead of opened.

Autolaunching

With all this information about how to create an entry in the Autopilot launch list, it's easy to forget that Autopilot was written to launch an application besides the Finder when your computer starts up. But you need to know how to create an entry in the launch list before you can tell Autopilot to automatically launch it at boot time. Once you have an item selected in the launch list, you can tell Autopilot to launch it at startup time by clicking on the Set Autolaunch button. The next time you restart your computer, the autolaunch application will be opened. This means that you can set an item to open AppleWorks GS, or you can set one to launch AppleWorks GS and automatically open a word processor file you work on constantly, *or* you can set one to simply send finderSays requests for a set of data files! Try doing *that* with the SetStart control panel! If you are booting your system and you don't want the autolaunch application to be run, simply put your caps lock key down into the locked position. This will override the autolaunch application and Autopilot will present its launch list instead. Note that the position of the caps lock key will also override any application that you may have set to launch via the SetStart control panel.

Preferences

Now that you know everything there is to know about how Autopilot works, it's time to learn a bit more about Autopilot and what the preferences are when you choose the Preferences menu item from the Special menu.

The first preference in the preferences dialog, "Always Autolaunch," controls when Autopilot will autolaunch an application. With the "Always Autolaunch" check box unchecked, Autopilot will only quit to your autolaunch application when your system is first started up. With the "Always Autolaunch" check box checked, Autopilot will *always* quit to your autolaunch application. (Remember that the caps lock key will always override the autolaunching of an application.) To give an example, I run a BBS, so I have Autopilot set to autolaunch my BBS software, and I also have the "Always Autolaunch" preference turned on. When I want to use another application besides my BBS, I'll quit the BBS software (with the caps lock key down) and Autopilot will let me choose an application to work with. When I quit that application (with the caps lock key up), Autopilot regains control, but instead of displaying the launch list, it will immediately quit back to my BBS software. In other words, it *always* autolaunches my BBS software! When this preference was first suggested by someone on America Online, I thought it was a bit silly, but after using it, I find it invaluable.

The second preference in the preferences dialog, "Recognize SetStart data," controls whether Autopilot will use the autolaunch message posted by the SetStart control panel or not. With the "Recognize SetStart data" check box unchecked, Autopilot will completely ignore the SetStart control panel (which makes the next preference irrelevant). With the "Recognize SetStart data" check box checked, Autopilot will use the SetStart autolaunch message.

The third preference in the preferences dialog, "Use SetStart data before Autolaunch data," is only valid when the "Recognize SetStart data" is turned on, and it controls the *priority* assigned to the SetStart message. With the "Use SetStart data before Autolaunch data" check box unchecked, Autopilot will first check its internal autolaunch application before looking for the SetStart message. With the "Use SetStart data before Autolaunch data" check box checked, Autopilot will first check for the SetStart message before looking for its internal autolaunch application. You can do some really keen tricks by having an autolaunch application in Autopilot, a startup application set with the SetStart control panel, and the "Use SetStart data before Autolaunch data" preference turned on. If you boot with the Command key up while the SetStart control panel posts its launch message, Autopilot will ignore its internal autolaunch application and quit to the application you have selected in the SetStart control panel. If you boot with the Command key down while the SetStart control panel goes by it will not post an autolaunch message, and Autopilot will quit to its own autolaunch application. This is handy when you frequently need to boot to two different applications. Of course, holding down the

caps lock key will override everything and display the Autopilot launch list instead of quitting to any autolaunch application.

The fourth preference in the preferences dialog, "Autopilot Speed," is a pop-up menu controlling the speed at which Autopilot will run. The four settings for the pop-up menu are Current, Normal, Fast, and Maximum. When the speed is set to Current, Autopilot simply uses the current speed of the IIGS. When the speed is set to Normal, Autopilot will slow down to the "normal" 1 MHz speed. When the speed is set to Fast, Autopilot will run at the "fast" 2.8 MHz speed. When the speed is set to Maximum, Autopilot will run at the maximum speed of your IIGS. If you don't have an accelerator in your IIGS, the Maximum speed is the same as the Fast speed. Autopilot will recognize both the Zip GS and TransWarp GS accelerator cards, and when Maximum is selected, Autopilot will turn the card on at full speed. My original goal of the "Autopilot Speed" preference was going to be a way to pump Autopilot back up to maximum speed after launching an application at a lesser speed value, but you can also use the "Autopilot Speed" preference as a master speed for your launch items by setting their launch speed to Current. This way, Autopilot initially sets the speed based on the "Autopilot Speed" preference, and when you launch an application, the Current speed setting in your item definition will leave your speed alone, effectively launching the application at the "Autopilot Speed."

Autopilot Tour

Granted, Autopilot may seem a bit intimidating at first, but once you get familiar with the item definition dialog, everything turns into a piece of cake. To get you started, here's an example of how you can initially set up Autopilot. First, use the Installer to install Autopilot on your boot drive and reboot. If you have used the SetStart control panel to boot into an application besides the Finder, put the caps lock key in the locked position so Autopilot will run instead of your alternate application. You could also hold down the Command key while the SetStart icon goes past during boot, but I find that the caps lock key is much easier to manage. When you finally arrive in Autopilot, the launch list will be empty and there will be no autolaunch application selected. To get anything productive done with Autopilot, you need to have an item in the launch list. So, choose the New button to bring up the item definition dialog. Now choose the Add Application button and when the Standard File dialog appears, go into the System folder on your boot disk and select the application named **Finder**. The application that you just selected (the Finder) will be added to Autopilot's application list, it will be selected in the Application pop-up menu as the application to use for the item you're defining, and the name of the item will be set to "Finder" since the name field was previously empty. You've now successfully completed an item definition because you can click on the Okay button. So, to accept the definition, click on the Okay button to add the current definition to Autopilot's launch list.

Autopilot's launch list will now display the item you just added. All you have to do now to launch the Finder is to click on the Open button. You could also choose the Open menu item from the File menu, or you could double-click on the item in the list. What happens when you do this? You'll be taken to the Finder! That wasn't so bad, was it? Now let's quit back to Autopilot and play some more. Select the Shutdown menu item from the Finder's Special menu (Command-Q), select the "Quit to previous application" radio button, and then click on the OK button. You'll then be back in Autopilot.

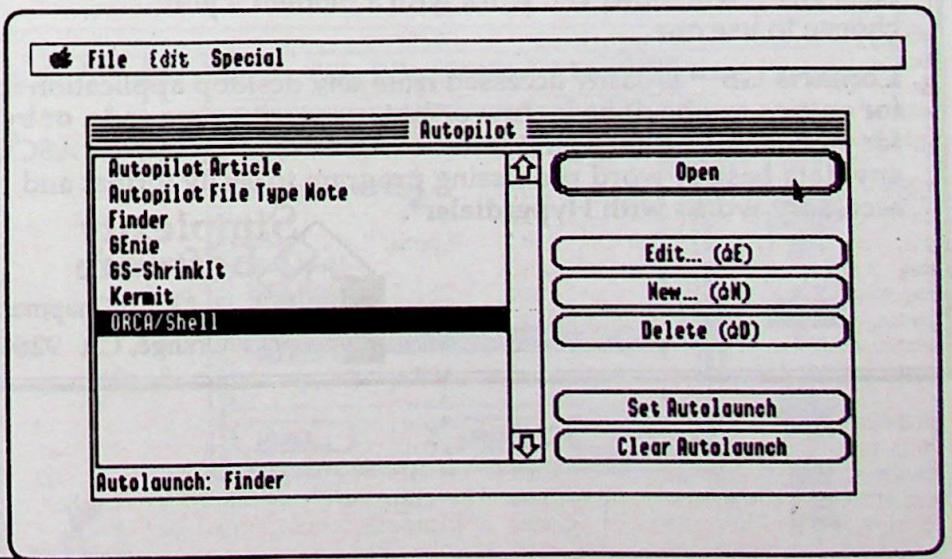
If you don't like the way the Finder application looks in the list (maybe you want it to be named "Finder v6.0"), you can change it by using the Edit button.

Select the Finder application from the list and then click on the Edit button. The item definition dialog will then reappear. You can now edit the item name to your heart's content. When you're done, click on the Okay button to accept the changes you've made, or the Cancel button to disregard any changes that you made.

Let's try another example of how to use Autopilot. Click on the New button to bring up the item definition dialog. For the item name, type in "Data File Test." Now add the Teach application supplied with System 6 using the Add Application button. Finally, click on the Add Data File button to bring up a Standard File dialog letting you choose a data file to automatically open. Choose the **a.Read.Me** file from your *GS+* Disk. Now click on the Okay button. Your launch list will now have an item called "Finder" (unless you renamed it) and the item you just created called "Data File Test."

Open the "Data File Test" item. When you do, the Teach application will be launched, and the **a.Read.Me** file from your *GS+* Disk will be opened. (You *have* read this file before now, haven't you?) Now quit from Teach back to Autopilot, select the "Data File Test" item, click on the Edit button, turn on the "Ask System Extensions To Open Data Files First" check box, and click on the Okay button. Once again, open the "Data File Test" item. If you have EGOed installed (or any other system extension that knows how to process a `finderSaysBeforeOpen` request for a text file) then the **a.Read.Me** file will be opened by EGOed! If a system extension refuses to accept the request, then you will be dropped into the Teach application since it's what you have defined as the application to use when finderSays requests are not accepted.

Now it's time to play with autolaunching an application. From Autopilot's main window, select the Finder application from the list control and then click on the "Set Autolaunch" button. You'll notice that the autolaunch string below the list control changes from "NONE" to whatever you named the Finder. Now select the Restart menu item from the



Special menu and confirm that you really want to restart your system (also make sure the caps lock key is up). Your computer will go through the boot process again and, instead of appearing in Autopilot, it will come up in the Finder. You could have, of course, put the caps lock key down and that would have forced Autopilot to load even if there is an autolaunch application set.

If you ever get tired of having the Finder as your autolaunch application, you can either change it by selecting another application from the launch list control and clicking on the Set Autolaunch button, or you can click on the Clear Autolaunch button to clear any autolaunch application. As another autolaunch example, select the "Data File Test" item from Autopilot's main window and click on the Set Autolaunch button. The autolaunch application will now change from "Finder" to "Data File Test." Now restart your system. When your computer finishes booting, you should be in Autopilot with EGOed opened and containing the **a.Read.Me** file from your *GS+* Disk.

Since you probably don't want to ever use the "Data File Test" item past this simple example, you'll want to remove it from your launch list. Removing an item from Autopilot's launch list is easy. Simply select the item from the list and click on the Delete button. The item will then be removed from the launch list. Try removing the "Data File Test" item now. Once you've removed the "Data File Test" item, you no longer have any references to the Teach application so Autopilot will ask you if you want to remove the Teach application from its list of known applications. If you keep the Teach application in Autopilot's application list and then later decide you want to remove it, go to the item definition dialog, click on the Edit Applications button, and then use the Delete Application button to delete the Teach application from the item definition's Application pop-up menu.

That's pretty much all there is to using Autopilot! For those wishing to delve into the depths of Autopilot's inner workings, the source code is on your *GS+* Disk. The **Autopilot.Tech** file on the *GS+* Disk contains some nice descriptions of each of Autopilot's routines. If you have any problems, or if 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. ***GS+***

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Open From Desktop

By Josef W. Wankerl

Diz came to me one day complaining about how, with a zillion EGOed and Finder windows open, it's difficult to move windows out of the way in order to get to the Finder's trash can. Also, I had always wanted a way to open generic items off of the desktop when they were obscured by windows. (Don't you think it's odd that a *desk* can have *windows* and a *trash can* on it?) Open From Desktop is a simple Finder extension that adds an Open From Desktop menu item to the Extras menu. When you select this item, you are presented with a list of all the items currently on your desktop. You can then choose an item and open it.

Some Installation Required

To install Open From Desktop, use the Installer program on your *GS+* Disk. If you need help using the Installer, see the "How to Use your *GS+* Disk" article in this issue. Open From Desktop will then appear in the Finder's Extras menu the next time you run the Finder.

Using Open From Desktop

As previously stated, Open From Desktop presents a list of all the items currently present on your desktop. When you choose an item and open it, any Finder icons that you had previously selected are deselected, the icon for the item you chose from the list is selected, and then the Finder's Open menu item is selected for you. A problem in Finder v6.0 causes the Extras menu to remain highlighted after you open a desktop item. (Talking to Dave Lyons at KansasFest, I found out that the Finder has a global variable which corresponds to the menu that was selected. When the Open item is automatically chosen for you, this global variable changes from the Extras menu number to the File menu number. So when the Finder attempts to remove the highlighting from the selected menu, only the File menu is affected—the Extras menu has been forgotten.)

And that's all there is to using Open From Desktop! Hopefully, you will find it as useful as we have. If you want to know what makes Open From Desktop tick, read on . . . .

Programming Considerations

Open From Desktop was written entirely in ORCA/C. In order to write a Finder extension, you need to get your hands on the *Programmer's Reference For System 6.0* (available from The Byte Works), which describes all of the requests that the Finder knows about. Open From Desktop was written around the Quick Folder Finder extension (from *GS+* V3.N6), and most of the notes from Quick Folder will apply to Open From Desktop. I actually took the Quick Folder code, subtracted out all the code that was specific to it, and then added one new procedure to present and handle the Open From Desktop dialog, so that's the only thing I will describe. If you want to know more about the remainder of the Open From Desktop code, I suggest that you take a look at the documentation for Quick Folder.

Desktop Dialog

When the `finderSaysExtrasChosen` request is received, Open From Desktop calls the `DesktopDialog` function to perform all the work.

`DesktopDialog` creates the modal window, sends the `tellFinderGetWindowIcons` request to get the pathnames to all the icons on the desktop, strips the filename from each pathname, and finally adds the filename to the list.

The member record for the list contains one additional entry, which is the number of the pathname in the stringList that `tellFinderGetWindowIcons` returned. This number must be maintained separately because the contents of the list are sorted, and the sorted order may not (most likely will not) be in the same order as the order of the items in the stringList.

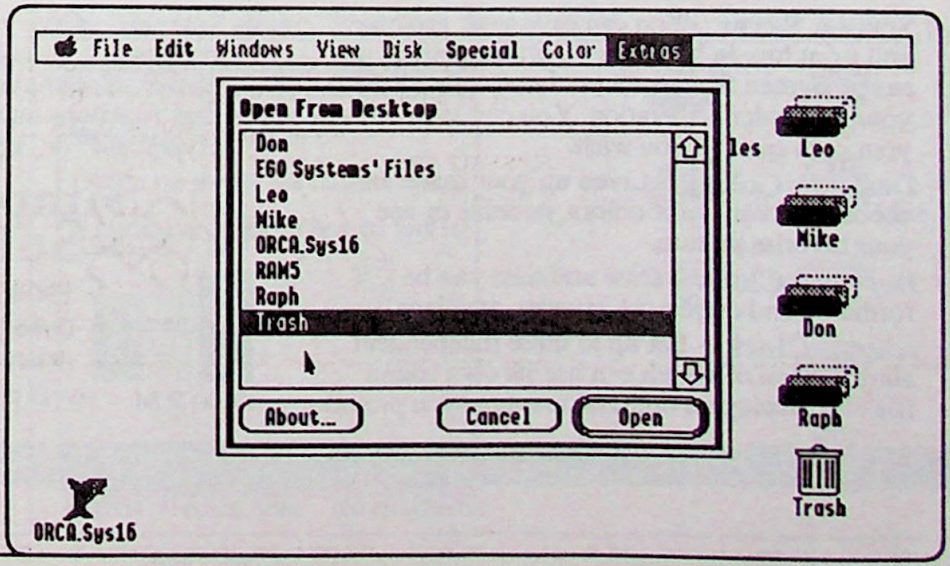
The items are added to the list using calls from the Miscellaneous Library. (For more information on the Miscellaneous Library, see the "Miscellaneous Library" article in this issue.)

When the Open button is selected, the number of the selected member in the list is obtained, the pointer to the `memRec` entry for that member is determined by using the Miscellaneous Library, and the number of the pathname in the stringList for the selected list item is obtained.

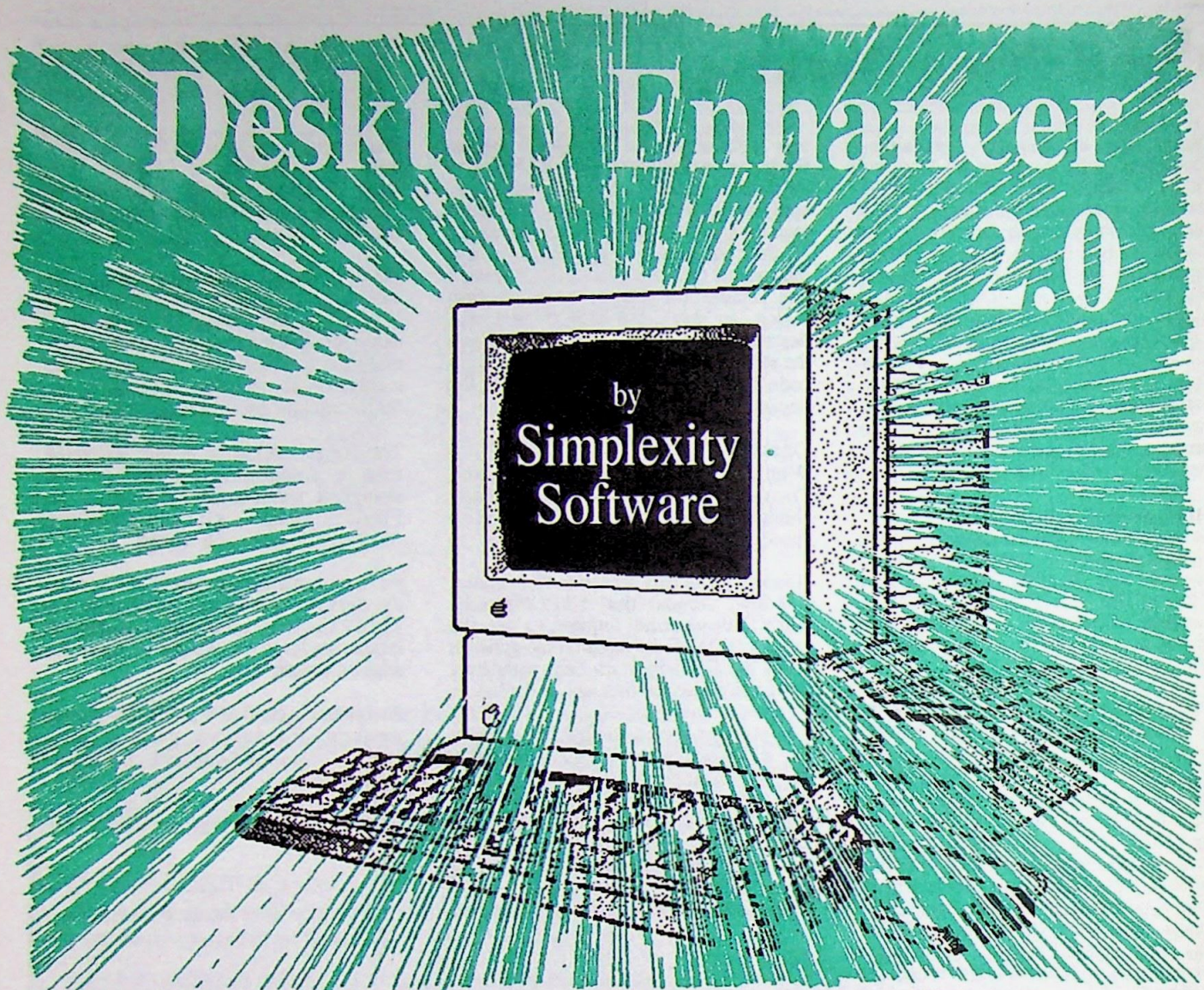
The correct pathname is then extracted from the stringList and converted into a stringList suitable for passing to the Finder with a `tellFinderSetSelectedIcons` request.

Next, all icons are deselected, the item on the desktop is selected, and finally the `tellFinderMItemSelected` request is sent to force the Finder to open the selected desktop item.

As usual, if you find a problem with this program, fill out the problem form supplied on your *GS+* Disk and let us know about it. *GS+*



Desktop Enhancer 2.0



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II Notes

By Steven W. Disbrow

II Notes is a New Desk Accessory (NDA) that makes a twenty-page notepad available at all times from your Apple menu. Unlike "text editor" NDAs (like EGOed), II Notes keeps all of the text you type into it in one file and it automatically saves it when you close II Notes. This makes II Notes great for taking quick notes (naturally), jotting down ideas, and making "to-do" lists. Not only that, but it's easy to use too! So easy to use, in fact, that I feel a bit silly even writing this article, but we've got space to fill, and II Notes does have some special features that you might not find on your own. So, let's talk about how to use II Notes.

Basic Features

II Notes requires System 6 or later, and if you try to run it under an earlier version of the system, it will (politely) refuse to run. However, after you have installed II Notes on your System 6 boot disk, and rebooted your computer, all you have to do is select "II Notes" from the Apple menu, and start typing. When you open II Notes for the first time, you will be on page number one.

You can type as much text as you want on any page—when you reach the end of the page, the text at the top of the page will simply scroll up out of sight. You can then use the arrow keys to scroll back to the top. (Actually, the II Notes window contains a TextEdit control, so you can use any of the text editing keystrokes that you may be familiar with from other programs like EGOed. For a complete list of all of the cursor and editing keystrokes that can be used in TextEdit controls, be sure to look at Table 1 in the **EGOed.Docs** file on your *GS+* Disk.)

Of course, you'll probably have more than one good idea in your life, and it would be nice if it could be separated somehow from the idea you just put on page one. In other words, being able to get to another page would be nice. To do that, simply move the mouse over the "dog-eared" corner at the bottom left of the II Notes window and click the mouse once. If you click on the upturned "dog-ear," you'll be taken to page two. Each time you click there, you'll go to the next page. Click enough times and you'll come to page twenty. Click once more and you'll be back at page one.

Of course, having to go all the way past page twenty just to get back to page one would be tedious—not to mention silly. So, if you click just below and to the left of the "dog-ear," you will be taken to the *previous* page. If you are on page one, you'll be taken back to page twenty.

And that's it really. Everything you need to know to use II Notes. Of course, that's not necessarily the easiest way to use II Notes.

Special Features

OK. As Mr. Perot would say, it's time to put the cards on the table and listen to the chickens sing (or something like that). Those of you that are familiar with the Macintosh have probably already dismissed II Notes as just a rip-off of the Notepad DA that comes with Macintosh system software. Well, it is, with some important additions.

For example, where the Macintosh Notepad can only hold eight pages, II Notes can hold twenty. (If you have more than twenty good ideas at once, you should hire a secretary to follow you around and take down your thoughts.) Also, the Macintosh Notepad only allows one font, size, and style on its pages. While you can not change the font, size, or style directly from II Notes, you *can* paste styled text from another TextEdit-based application, like EGOed, onto a II Notes page, and all of the font, size, and style information will be remembered by II Notes. Another shortcoming of the Macintosh Notepad DA is that whenever you open it up, you always start out on page one. This can be a pain if you happened to type your last fabulous idea on page five and you want to get back there ASAP. II Notes, on the other hand, remembers the page you were on when you last closed it, and automatically takes you to that page the next time you open the II Notes NDA.

Also, I've taken special care to make sure that II Notes can be used entirely from the keyboard. The only time you have to touch the mouse is to actually select II Notes from the Apple menu. (And if you have Quick DA installed, you don't even have to do that!) The keystrokes that II Notes uses are shown in Figure 1.

And that's *really* everything you need to know to use II Notes effectively. While I'm sure that some of you may be thinking, "What a stupid program," (which is what I used to think of the Mac Notepad DA!) let me just ask you to give it a try. I think you'll find it a *very* useful addition to your Apple menu!

Technical Information

Those of you that are familiar with my other programs are probably thinking that II Notes is just a subset of the EGOed ORCA/C code, ripped out and thrown together in a few hours. Actually, II Notes is 100% new code that I wrote in 100% ORCA/M. Yep, I finally sat down and taught myself some IIGS Assembly Language!

So, What Did I Learn?

First and foremost, I learned that Assembly Language is *fun*! I originally learned this in college, but had completely forgotten it after immersing myself in C, Pascal, HyperTalk, and all of the other high-level languages I've been working with for the last five years.

The second lesson I learned is that when you want to learn a new computer

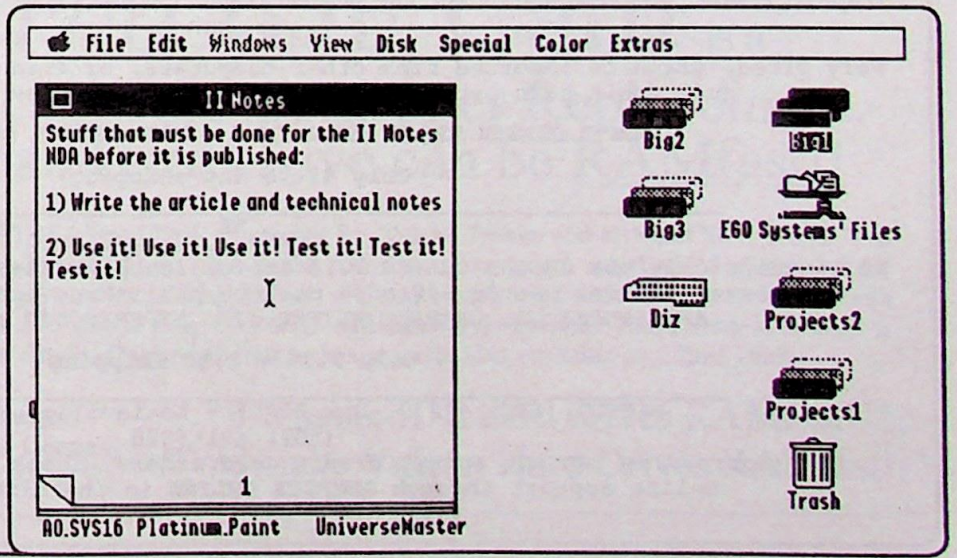

Figure 1 - II Notes Command Keys

Command-A	Select All text on the current page
Command-C	Copy the currently selected text to the clipboard
Command-V	Paste the text in the clipboard onto the current II Notes page
Command-W	Close the II Notes NDA
Command-X	Cut the currently selected text to the clipboard
Command-+	Go to the next II Notes page
Command--	Go to the previous II Notes page

For a list of other editing keystrokes, refer to Table 1 in the file **EGOed.Docs** on your *GS+* Disk.

language, it's very helpful to have a small and *very* well-defined project to do while learning the language. While you probably won't learn everything you will need to know about the language, you will learn a lot, and what you do learn, you'll learn very well. One of the reasons beginning programmers give up is that they try to learn *everything* at once, or they try to tackle a project that would give even an experienced programmer a headache. These traps are especially easy to fall into on a machine like the IIGS, which has a "language" of its own (the Toolbox) that you have to learn at the same time you are learning the actual programming language.

Third, I learned that when the Desk Manager passes you a pointer to an Event Record, you do *not* mess with that Event Record! You get up off your lazy butt, make a copy of the Event Record, and then mess with the copy!

Fourth, I learned that it helps to have good reference materials. The first reference I turned to was Dave Farber's AutoSave code, which we just happened to publish in V3.N2 of *GS+* Magazine. Unfortunately, beyond giving me a good example of how to set up an NDA header, AutoSave and II Notes were so different in what they were trying to do, that I had to move on to other references.

Among those, I've found that, even though it was primarily written with the Merlin assembler in mind, Roger Wagner's book, *COMPUTE!'s Apple IIGS Machine Language For Beginners* was very helpful. If you have not a clue about how to program the IIGS in *any* language, and you want to start in Assembly, I would recommend that you give this book a try. If however, you *do* know how to program the IIGS in another language, you'll like this book most of all for its handy opcode listings, ASCII table, examples, and nice friendly typeface (I'm deadly serious about that—these sorts of things become very important when your eyes are glazing over).

However, none of the references that I had access to provided me with a clear, concrete example of that most important of IIGS programming techniques: how to dereference a handle (or a pointer) in IIGS Assembly. (Actually, *we* published just such an example way back in *GS+* V2.N5, but that issue is sold out now, so it's probably a good idea to go over it again.)

How To Do Just That

To put this in perspective, I'm going to show you how to dereference a handle as part of something that you will have to do in just about every IIGS program you ever write: loading a resource and seeing what's in it. It won't be a complex resource, it will only be a single word (2 bytes). In this case, it's actually the page number of the II Notes page that was visible when the user closed the II Notes NDA. This number is loaded when the user first opens the II Notes NDA and is used to load the appropriate text and style resources for that page. Note that to really

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understand this code, you have to understand the Direct Page Indirect Long addressing mode, and to understand that, you have to understand what the Direct Page and Direct Page Register are. So, with apologies to Joe, here we go . . .

Basically, a very simple definition is that the Direct Page Register holds the starting location of 256 bytes of memory that you can access, er, directly. These 256 bytes are then referred to as the Direct Page. The Direct Page Indirect Long addressing mode allows you to treat three of those 256 bytes as a pointer and to look at what that pointer is pointing at. You simply specify how many bytes from the start of Direct Page the pointer is, and the 65816 does the rest. Confused? Here's an example: In the statement "`lda [$3]`" you are telling the 65816 to look at the third byte past the start of the Direct Page, and take the next three bytes (bytes 3, 4 and 5 past the start of the Direct Page) and treat them as a pointer. Not only that, but since this is an *indirect* addressing mode, you are also telling the processor to load *what that pointer is pointing at* into the accumulator. Still confused? Try looking at the code (and comments) in Figure 2, and then read that again. If that doesn't help, pick up a copy of Roger's book, look in the index under "Direct Page" and try again.

The End

And that's all I have to tell you about my first experiences with IIGS Assembly Language. Everything else of interest is in the source code itself. If you have any questions about it, or just want to poke fun at the sloppy code of a first-timer, drop me a line! *GS+*

Figure 2 - Loading a Resource & Dereferencing its Handle

```
pea   $0              ; Push space on the stack for the handle
pea   $0              ; Push some more space on the stack
lda   #rInteger       ; The type of the resource we are after
pha
ph4   #CurrentPage    ; The ID of the resource we are after
_LoadResource         ; Load it, leave the handle on the stack.

phd                   ; save current Direct Page on the stack
tsc                   ; Take the stack pointer...
tcd                   ; and make IT the direct page
;
; Now we have to dereference the handle that is on the
; stack to get the POINTER to the word we want.  (The lda
; instructions use "Direct Page Indirect Long"
; and "Direct Page Indirect Long Indexed with Y"
; addressing.)
;
lda   [$3]            ; save the first two bytes of the pointer
sta   cpPtr           ; in the first two bytes of our variable
ldy   #$2             ; (Set the index)
lda   [$3],y          ; save the last two bytes of the pointer
sta   cpPtr+2         ; in the last two bytes of our variable
pld                   ; restore the direct page

pl4   cpHandle        ; save the handle for later use

ph4   cpPtr           ; push the pointer we just got

phd                   ; save the Direct Page on the stack
tsc                   ; Take the stack pointer...
tcd                   ; and make IT the direct page
;
; Now we have to dereference the pointer that is on the
; stack to get the WORD we want.
;
lda   [$3]            ; load the word we want
sta   curPage         ; and save it
pld                   ; restore the direct page
pla                   ; get the pointer off of the stack
pla                   ; (ditto)
```


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Apple EXPO East

By Steven W. Disbrow

The first annual Apple EXPO East was held October 2-4, 1992 in The Castle at the Boston Park Plaza, Boston, Massachusetts. Like the Apple Central EXPO in Kansas City, Missouri this past July, the show boasted exhibitors for the entire family of Apple Computers. Surprisingly, it appeared that there were just as many Apple II exhibitors as Macintosh exhibitors (see the "Who Was There" sidebar for a list of Apple II vendors in attendance). Not surprisingly, Apple could not be counted among the Apple II vendors, however, they did do a bang up job of selling the Macintosh. Oh well.

The number of exhibitors and the size of the hall were both about twice that of the Apple Central EXPO (72 exhibitors for the EXPO East versus 33 for the Central EXPO), but it appeared to me that not as many (and possibly even fewer) people attended the Boston show as the Kansas show (I haven't heard any attendance reports for either show). Walking through the hall, it was a very special feeling knowing that this was the same place that the first AppleFest had been held. (I felt a chill when I visited the restrooms, thinking, "Gee, I wonder if the Woz was ever in here?" But I digress.)

Day By Day

Attendance the first day of the show was brisk, but probably not as good as it could have been. That's because President Bush had decided to give a speech at the hotel across the street that very afternoon, and the road's were closed for most of the afternoon. This was the same hotel that most of the exhibitors had planned on staying in, but the Secret Service apparently needs lots of rooms, and several of the exhibitors were forced to stay at different hotels, some up to 30 miles away from the show! As if that weren't bad enough, that evening there was a $1,000 a plate fund-raiser in the hotel restaurant, spoiling the dinner plans of a great many of the exhibitors. (At the insistence of ECON Technologies' Tyler Weisman, a large group of us walked "5 blocks" [or was it 5 *miles*?] through Boston's China Town in search of our supper. I love to gripe, so I had a great time as Tyler drove us on our "death march to the New House of Toi." The next night, Tyler dragged us [willingly of course] to "Durbin Park" [I think] for steaks. Fortunately, the food was superb both nights! Thanks Tyler! [And again, I digress.])

The second day of the show, attendance appeared to drop a bit, but it was probably just Roger Wagner giving his usual 100 seminars (I know, I know, we haven't given Roger his free plug yet. Don't worry, it's in here somewhere.) The advantage of this was that we got to talk at length to lots of the people that *did* stop by. I've said it before, and I have to say it again, talking to the *GS+* subscribers is my favorite part of these shows. It's great to hear what you like about *GS+* Magazine (and what you don't like), and to hear your suggestions on how to make the magazine better.

One of the more interesting "individuals" at the show, was the motorized, remote-controlled Lemming that Psygnosis was running around the exhibit hall. This green-haired rascal was the hit of the show as far as I could tell . . . however, he didn't actually run off of any cliffs, which disappointed me somewhat. (For more information on Psygnosis, Lemmings, and their plans for a possible IIGS version, check out "Rumors, Wishes & Blatant Lies" in this issue.)

Other notable events for the second day of the show included a visit from Bruce Maples of the Alliance International, Incorporated (the AII). Joe and I sat down with Bruce for a few minutes and answered some questions he had for an article he was working on for the Alliance newsletter. Paul Statt of *inCider/A+* joined us for some photos, and later told me about some of the upcoming changes at that same magazine. (I promised not to tell, so you'll have to pick up their latest issue.) Sometime after that, the guys at

TMS Peripherals overheard me grumbling for "a single lousy, frosted, blueberry Pop-Tart," and brought me two of my very own. Thanks guys!

The last day of the show was for us, in a word, miserable. Not because of a drop in show attendance, but because all three of us caught severe colds the night before. It's tough to be a bright, cheery capitalist with a tissue up your nostril. Actually, I don't think there was a real drop in attendance the last day of the show, I think we just scared everyone away with our sneezing and coughing.

Overall

Beyond that, the EXPO itself was your typical trade show: lots of browsing, lots of buying, and lots of competition between the vendors. (You'd be amazed at what goes on between some of these mail-order vendors! Geraldo Rivera wouldn't touch some of this stuff with a ten-foot pole! Believe me folks, "competition" is alive and well in the Apple II mail-order business.)

The big software news of the show was the release of Twilight II, Foundation v1.0.1, and the impending release of Out of This World (in fact, the day before we went to press, we got word that Out of This World was on its way to the disk duplicator and should be available when you read this. For more information on these releases, check out the "What's New" article in this issue, and the ads from Lunar and Big Red.) There wasn't a lot of new stuff (remember, KansasFest was only three months ago, and that's where most of the new stuff was released), but there were a few new product announcements. Check out "Rumors, Wishes & Blatant Lies" for complete details.

The End

Finally, I need to give a big thanks to Derek Young for helping us out with preparations for the show. If not for his help, the show would have been a disaster. Thanks for the help, Derek, and thank your mom for me too!

As with the Apple Central EXPO, I had the most fun talking with our subscribers, and hanging out after the show with the "diehard" subscribers (like *you* Linda!) and the vendors. It's nice to get to know them as *people* and not just subscribers and vendors. Hopefully, I'll get to know even more of you at the Apple EXPO West in San Francisco this April! *GS+*

The Ties That Blind
East Coast Edition

Of course, no *GS+* Magazine trade show report would be complete without a space-filling, Roger Wagner tie report and plug for HyperStudio. Unfortunately, we do not have any pictures of any of these ties, because we value your eyesight, and our pictures always turn out bad anyway. (As always, I must point out that these are *real* ties, *not* sissy-boy clip-ons.) So, here we go:

Day 1. Roger sported what we are calling the "Techno-Disney" tie (Mickey Mouse and Donald Duck holding calculators).

Day 2. Today's festive fabric was "A Trip to Paris" (lots of French points of interest, i.e. the Eiffel Tower, Jerry Lewis, etc.).

Day 3. Today was Beatles day, featuring the "Magical Mystery Tour" tie (which reminds Roger of Fantasia, because of the hats and gloved hands, which in turn reminds him of HyperStudio, because "Fantasia" was the code name for HyperStudio).

Who Was There?

(The following companies brought their Apple II products to the Apple EXPO East)

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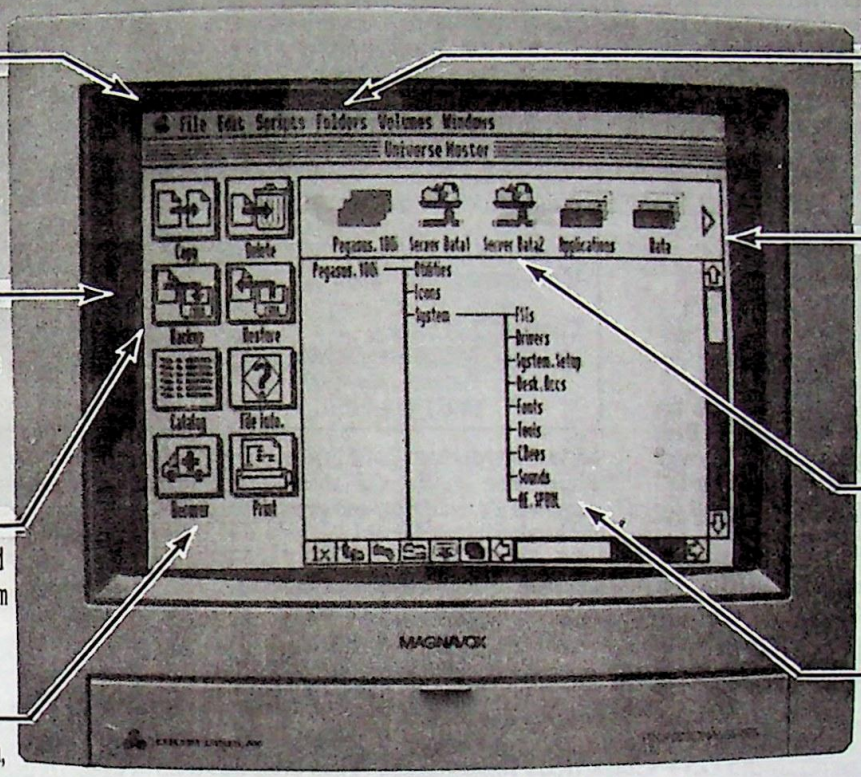

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The deadline for inclusion of a classified ad in the next issue (Volume 4, Number 2) of *GS+* is November 15, 1992. Simply fill out a photocopy of the coupon below; or send your ad along with your name, address, phone number, number of issues to run, and payment (made payable to "EGO Systems") to *GS+* Classifieds, P. O. Box 15366, Chattanooga, TN 37415-0366; or call us at (615) 843–3988, Monday through Friday between 9 a.m. and 6 p.m. Eastern Time, to place an ad with your MasterCard or VISA. You can also FAX us your classified ad by calling our FAX number: (615) 843-3986.

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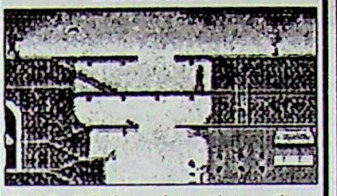

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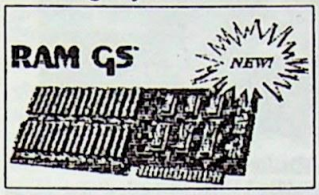


Sequential Systems RAM-GS™: With memory expansion this cheap, there's no excuse for "Out of Memory" errors. RAM-GS is a low-cost, 4 Megabyte memory expansion for the IIGS. Easily installed, it is fully compatible with GS/OS, DMA and all software. Its multi-layer circuit design makes it run cool and draw less power. Order product number SQ50 for only $140.

Other Great Apple IIGS Programs

Title	Member's Price	Non-Member's Price
Mindscape		
Balance of Power 1990	$15	$20
Captain Blood	$15	$20
Deja Vu I or Deja Vu II	$10	$15
Shadowgate	$10	$15
Electronic Arts		
Bard's Tale I or II	$15	$20
Cartooners	$10	$15
Instant Music	$10	$15
Instant Synthesizer	$15	$20
Deluxe Paint II	$10	$15
Keef the Thief	$15	$20
The Immortal	$24	$30
Interplay		
Neuromancer	$10	$15
Dragon Wars	$25	$30
Sierra On-Line		
Black Cauldron	$20	$25
King's Quest I, II, or III	$20	$25
Gold Rush	$20	$25
Manhunter – New York	$15	$20
Mixed Up Mother Goose	$15	$20
Police Quest	$20	$25
Space Quest I or II	$20	$25
Thexder	$15	$20
Microillusions		
Blackjack Academy	$20	$20
Fire Power	$20	$20
Accolade		
Bubble Ghost	$10	$15
Duel: Test Drive II	$15	$20
Hardball	$10	$15
Jack Nicklaus' Golf	$20	$25
Mean 18 Golf	$20	$24
Serve and Volley	$15	$20
4th & Inches	$15	$20
FTA		
Photonix II	$15	$20
Micro Revelations		
Xenocide	$18	$23

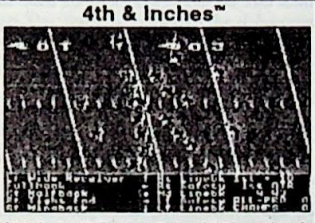
Title	Member's Price	Non-Member's Price
Software Toolworks		
Chessmaster 2100	$20	$20
Gin King/Cribbage King	$15	$20
Life & Death	$15	$20
Mavis Beacon Typing	$15	$20
Activision		
GBA Basketball	$20	$20
Hacker II	$20	$20
The Last Ninja	$20	$20
PaintWorks Gold	$34	$39
Music Studio 2.0	$34	$39
Shanghai	$20	$20
Michtron		
Airball	$20	$20
California Dreams		
Tunnels of Armegeddon	$15	$20
Club Backgammon	$8	$10
Triango	$8	$10
Vegas Craps	$10	$15
Vegas Gambler	$10	$15
Britannica		
Gnarly Golf	$7	$9
Great Western Shootout	$10	$15
Jigsaw!	$10	$15
FTL Software		
Dungeon Master	$20	$25
Three Sixty Pacific		
Warlock	$15	$20
Casady & Greene		
Crystal Quest	$20	$20
JaDa Graphics		
Basic Paint	$30	$45
Seven Hills Software		
Express	$26	$26
Gate	$30	$30
DreamWorld Software		
DreamGrafix	$75	$75
Westcode Software		
Pointless	$55	$55

Free Shipping & Handling

Zany Golf™

Zany Golf™: This is what the GS computer is all about. Great graphics and sound. Each zany hole is a challenge and has its own theme. There's a pinball game, a bouncing hamburger hole, a hole that is constantly moving and a journey into Dr. Frankenstein's laboratory. Can you reach the bonus hole? Order product number EA63 for $25 for non-members or $20 for members.

4th & Inches™



4th & Inches™: Features the hard-hitting action of real football including the bombs, the blitzes and the goal line stands. Choose your lineup and your play selections carefully and you'll have a good chance of winning. Experience graphics and animation as riveting as a blind side hit. Order product number FL74 for only $20 for non-members or $15 for members.

Blockout™

Blockout™: It's like Tetris™ but it's 3-dimensional. Your job is to rotate and maneuver various 3-D blocks as they fall into a pit. The idea is to make the blocks fall into the proper positions to form complete layers. As each layer is completed, it vanishes, giving you more room to work with. Order product number CD54 for only $20 for non-members or $15 for members.

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Fast Service. Order by Fax (402) 379-3361
MasterCard or Visa Accepted

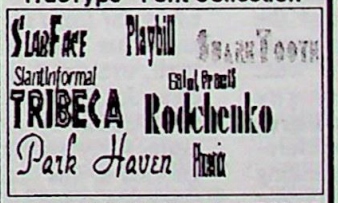
You don't have to be a member to order but member prices are from $2 to $10 less per title. You can become a member for only $19.95 and place your order at the same time to save Big Bucks. Plus you'll receive twelve issues of our great newsletter called Scarlett and our full catalog. School purchase orders accepted.

Big Red
COMPUTER CLUB
423 Norfolk Avenue, Norfolk, NE 68701

Space Fox™

Space Fox™: Pilot your spacecraft through multiple levels while you're constantly under attack. Use your arsenal of weapons and your wits to destroy the attacking ships. Use your skills to strategically dock with your home base. Be a Space Fox and master the levels of the galaxy. This game is rated a WOW!! Order product number SV70 for only $30.

TrueType™ Font Collection



TrueType™ Font Collection: Get ten 3.5" disks full of the greatest freeware TrueType fonts for use with WestCode's *Pointless* program. There's a printed sheet for each disk showing all of the fonts that are on the disk. Now you can choose from hundreds of different fonts for just the right look in your desktop publishing project. Order product number GP55 for only $28.

Hunt for Red October™

The Hunt for Red October™: In this game, based on Tom Clancy's novel, your mission as commander of the Soviet nuclear submarine is to defect, evade the rest of the Soviet navy and sail west to America. It features first-person battle views. Up periscope! Order product number SF56 for only $15 for non-members or $10 for members.

For Free Catalog and To Order - Call Now! - (402) 379-4680

Rumors, Wishes & Blatant Lies

By Prof. G. S. Gumby

Lies, Lies & More Lies

No matter how many clues I drop, some of our readers just can't distinguish facts from the fevered fantasies in this column. So, to make things a bit easier for those of you that read everything except the title (those bold words at the top of the page), I'll tell you right now that three out of four items in *this* column are lies. Honest.

Fabula!

Sources tell us that as a follow-up to the new Performa line of Macintosh computers, Apple Computer plans to announce a new line of Apple II compatible computers called "Fabula." The Fabula line will be similar to the Performas in that they will, for the most part, be the same old models with new name plates. For example, the Fabula 199 will be a IIc+, the Fabula 399 will be a IIe and the Fabula 599 will be the stillborn ROM 04 IIGS that was almost introduced at the 1991 KansasFest. However, unlike the Performa computers, which are sold through mass market outlets (like Sears and Circuit City), the Fabulas will be available only through pawn shops. The Fabula 199 and 399 will be available immediately (just check your local pawn shop) with the 599 to be available real soon now.

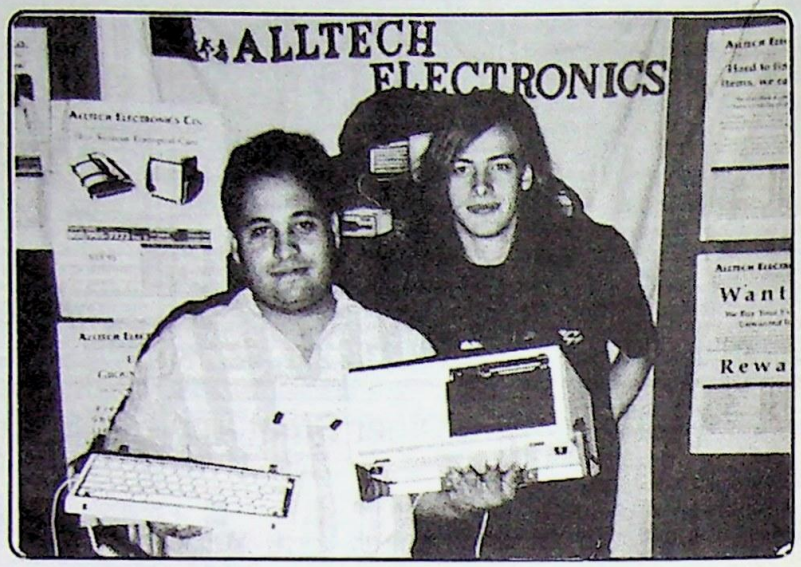
Speaking Of Which . . .

Did you know that the Performa line was originally going to be called "Unbelievaba?" But it was decided that "Unbelievaba" sounded too silly. (Although if you search carefully, you should be able to find a few "Unbelievaba 200" computers with "Performa" stickers over the name plate.)

Lemmings GS?

Talking with the people from Psygnosis at the Apple Expo East, our publisher learned that there is serious consideration being given to a IIGS version of the amazingly popular (and addictive) game, Lemmings. If you don't know what "Lemmings" is, it's a game where you try to keep zillions of little, green-haired Lemmings (small, rat-like, middle-management type creatures) from killing themselves. Believe it or not, it's a really fun game, and a IIGS version should be dynamite. All we have to do is let the Psygnosis people know that we want it! To do that, write to them at:

Psygnosis Ltd.
29 Saint Mary's Court
Brookline, MA 02146
(617) 731-3553



A Portable IIGS? That's Fabula!

Yes, you had to see it to believe it, but Tony Diaz of Alltech Electronics, Inc. was showing off a *portable* IIGS at the Apple EXPO East! Basically, this was a IIGS motherboard along with a ZipGS, 3.5-inch (800K) disk drive, and an InnerDrive hard drive, crammed into an old "luggable" carrying case (similar to an old Osborne or Kaypro case). The screen was an just an old amber screen that Tony picked up for about $15, but it actually looked very good and was very easy on the eyes.

The only problems with this little marvel were that it runs off of wall current (Tony is working on a battery-powered version), the numeric keypad had to be chopped off of the keyboard, and that it weighs quite a bit more than most of today's portables.

Best of all, Tony says that the entire conversion is very affordable. Unfortunately, Tony isn't really sure that there would be much demand for this sort of thing. So, our job is to convince him otherwise. Contact Tony on America Online (his handle is DuelPlay) and tell him that you want *your* portable IIGS!

Gimme A SEA!

Wow! First I wished for some business software, and we got *Your Money Matters* (which the boss-man tells me will be reviewed next issue). Next, I wished for a program that would create *self-extracting archives* (SEAs) so that we could make it easier for folks to get at the source code and other materials on the *GS+* Disk. Well, even as I type this, our technical editor Joe Wankerl is downloading v1.1 of GS-ShrinkIt by Andy Nicholas. Once again, Andy has done a great job and, you guessed it, this version even creates self-extracting archives!

If you aren't familiar with this concept, here's a brief explanation. A "self-extracting" archive is an archive that contains a small program that knows how to extract the contents of the archive. In fact, from the Finder, the archive appears to be an application program. You just double-click on it, and it does the rest! (Well, you still have to tell it where to put the files.)

So, why am *I* telling you this? Why isn't this in the "What's New" section? Well, it's because this is the column everyone reads first (thank you very much), and Joe wants to make sure everyone knows about this change! He also wants everyone to know that they should be sure to read the "How to Use your *GS+* Disk" article before trying to use the disk!

Dr. Gumby's Vapo-Ware Rub . . .

Even though there weren't any really *new* products being shown at the Apple EXPO East, there were quite a few new products being shown at the EXPO. (Note that I didn't call them "vaporware." Are you happy now S. C.?)

So, without further adeú, let's run down some of the new products that are in the works for your IIGS:

Infocom Shanghaled

Once again, the fine folks at Big Red Computer Club are doing a good deed (actually, two good deeds) for all of us IIGS owners. This time, they've commissioned IIGS-specific versions for two new products: *Shanghai II: The Dragon's Eye*, and *The Lost Treasures of Infocom: Volume I*.

Shanghai II is, of course, a sequel to the amazingly popular, cool, and fun, Shanghai. This new version allows different tile sets and layouts. Shanghai II: The Dragon's Eye should be available by mid-November, if not sooner.

The Lost Treasures of Infocom, are just that: 20 old Infocom "interactive novels" that went out of publication when Infocom's parent company, Activision, dropped out of sight a few years ago. All 20 adventures come in one box, complete with maps, clue books, and lots of other goodies. However, the best part is that, unlike the original Infocom games which ran on any Apple II, these will be converted into IIGS-specific versions that will work under the desktop interface! Look for this one right before Christmas. For up to the minute pricing and availability information on these products, contact:

Big Red Computer Club
423 Norfolk Ave
Norfolk, NE 68701
(402) 379-4680

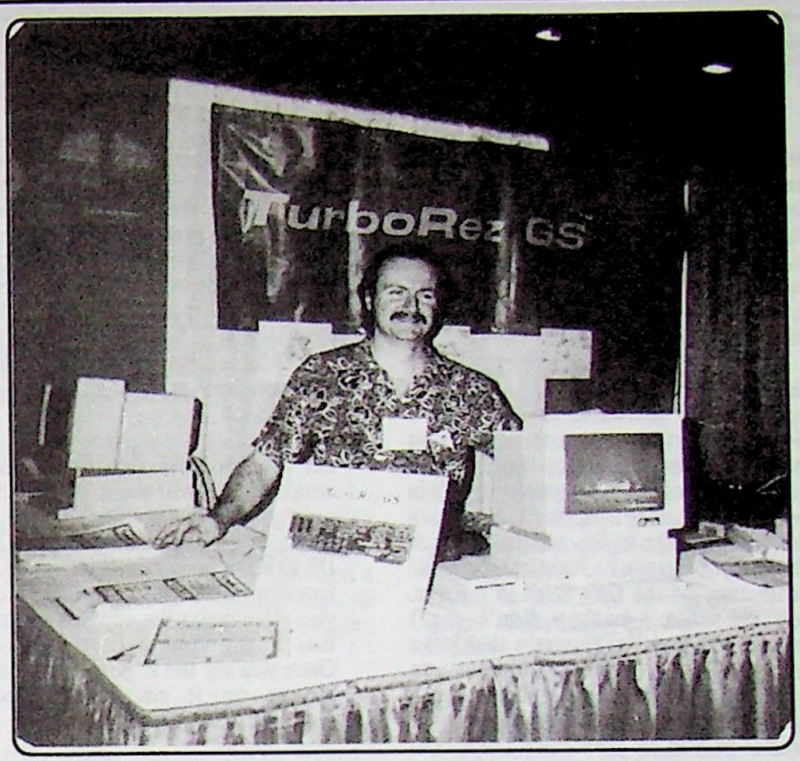
Spellbound

No, it's not a wacky new movie starring Roger Wagner (had to get his name in here somewhere!), Jay Jennings, and the DoubleMint™ twins . . . it's *SpellBinder*, a new HyperStudio-based, fantasy role-playing game, similar in concept to Dragon Wars and The Bard's Tale. At this point, it's still under development, but a demo version has been released as shareware ($15) with the final version scheduled for release at the 1993 KansasFest (July of '93). If you don't mind the download time (it's about 3 disks worth of stuff), you should be able to find the demo on America Online or GEnie. Or, you can contact:

SpellBinder Software
R. R. 2 Box 233L
Norwich, Vt 05055
America Online: SpelBinder

HardPressed For Names

Ah, those rascally folks at WestCode. Just when you thought they couldn't top product names like "InWords," and "Pointless," they go and announce, "HardPressed." Basically, HardPressed is competition for ECON Technologies automatic disk compression software, AutoArc (which is still under development). It'll be kind of nice to have competition in the IIGS market again, don't you think? Anyway, at this point, no details have been released about HardPressed, other than the fact that they are working on it and the thinly-veiled claim that it will be better than AutoArc. I guess that we'll just have to wait and see.



TurboRez Lives!

Yes, it exists! Yes, it was shown at the EXPO! No. It's not shipping . . . yet.

However, Bill St. Pierre, the designer of the TurboRez board, tells us that the initial batch of 135 TurboRez boards should be rolling off of the production line sometime in the middle of January (at a retail price somewhere around $325). At the show, Bill was passing out a *very* informative flyer that tells just about everything you could want to know about the TurboRez board. For example, it won't let you use a VGA monitor on your IIGS, but it *should* work with your Video Overlay Card, and it will be programmable through a standard IIGS tool set. This last item is very good news indeed, because it means we should see some *very* neat desktop software that takes advantage of the TurboRez. In fact, Bill was showing off some of the software that will probably be shipping with the card, and it was all very impressive. As for "fourth-party" support, our good friend Michael Lutynski's Animasia 3-D modeling program (which we reported on last issue), *already* has support for the TurboRez built in!

But hey, this was a 4-page flyer, and I'm sure Bill would love to send you a copy. Contact him at:

RezTek
2301 Cotton Ct.
Santa Rosa, CA 95401
(707) 573-9257

Hey! Hey! Hey!

Got a IIGS rumor? Got a IIGS wish? Got a copy of that new Madonna book? (Could I see it? Pretty please? I just wanna take a little peek. Really! I might even return it!) Send any or all of the above to:

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

How to Use your 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) 843-3988. If your disk is damaged, let us know and we'll get a new one to you as soon as possible.

Installing The Software

To install the software on this issue's *GS+* Disk, start up your computer using System Software v5.0.4 or later. (Note that several of the programs on this issue's disk *require* System 6! For more information, refer to the article for each individual program.) Next, place your *backup* copy of the *GS+* Disk in a drive. (You *did* make a backup didn't you?) Now run the Installer program that is on your *GS+* Disk. (From the Finder, you would double-click on the Installer icon.) *It is* extremely *important that you use the Installer that is on your* GS+ *Disk! Do* not *use any other copy of the Installer!*

When the Installer window appears, select the item 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 on the Install button. For more information on how to use the Installer, refer to your IIGS owner's manual.

Before you attempt to use your *GS+* Disk, please take a few minutes to read the **a.Read.Me** file for any last minute corrections or information. If you do not already have EGOed installed in your system, you can use the Teach application supplied with System Software v6.0 to read this file.

Installing EGOed

The following is a detailed example of how to install EGOed. The other programs on your *GS+* Disk are installed in a similar manner.

- Start up your IIGS with System Software v6.0 or later—the version of EGOed that is on this *GS+* Disk *requires* System 6! (Your *GS+* Disk is *not* a startup disk, so don't try starting your computer with it.)

- Insert your backup copy of the *GS+* Disk into a drive and run the Installer program that is on your backup *GS+* Disk. It is *very, very* important that you run the Installer that is on your backup *GS+* Disk and *not* some other copy of the Installer.

- When the Installer finishes loading, click on the Disk button on the right-hand side of the Installer window until your startup disk appears. (If you only have one 3.5-inch disk drive, you will have to remove the backup *GS+* Disk from the drive and replace it with your startup disk. You should also refer to the "Making Room" section below for hints on how to free up room on your boot disk.)

- On the left-hand side of the Installer window, you will see a list of the items on the backup *GS+* Disk. One of the items in this list should be "EGOed." (If EGOed is *not* in this list, quit the Installer and begin again. Be sure that you are running the copy of the Installer that is on your backup *GS+* Disk!) Once you see the EGOed item, click the mouse on it so that it becomes highlighted.

- Click the mouse on the Install button in the middle of the Installer window. The Installer will then install EGOed on your startup disk. If you only have one 3.5-inch disk drive, you may have to switch disks several times. Simply insert each disk as the Installer asks for it.

- When the Installer has finished, click on the Quit button in the middle of the Installer window. This should cause your IIGS to restart.

- When your IIGS finishes restarting, pull down the Apple menu and select EGOed (note that you have to be in a desktop program like the Finder to have access to the Apple menu).

- When EGOed finishes loading, select Open from the EGOed File menu and then insert your backup *GS+* Disk into a drive. You should then see a list of the files and folders on the *GS+* Disk.

- Open the **EGOed** folder on your backup *GS+* Disk and then open the file **EGOed.Docs**. This file contains complete documentation on how to use EGOed. Please take a few minutes to read this documentation.

Making Room

If you do not have a hard drive, you will probably have to remove some files from your startup disk to make room for the New Desk Accessories, Control Panel Devices, and other system files that come on the *GS+* Disk.

Towards that end, we have prepared the following list of "expendable" files that you can "safely" remove from your System Software v5.0.4, or System Software v6.0 startup disk to free up some space. (We've put quotes around "expendable" and "safely" because almost *all* of the files in the IIGS System Software have some sort of use! The files we are presenting here are the ones that are the "least" useful for a specified hardware setup.)

Be sure that you *never* delete *any* files from your original System Software boot disk! Always work on a backup copy!

System Software v5.0.4

The standard System Software v5.0.4 **:System.Disk:** has 12K available on it. The following items can be deleted from the root directory of the disk: **Tutorial** (11K), and **AppleTalk** (0K).

After this, things get a bit tricky. Other files that you can safely delete depend on your *hardware setup*. If you have a ROM 01 IIGS, you may delete the file ***:System:System.Setup:TS3** (15K). If you have a ROM 03 IIGS, you may delete the following file: ***:System:System.Setup:TS2** (41K).

If you do *not* have a modem, you may delete the following files: ***:System:CDevs:Modem** (6K), and ***:System:Drivers:Modem** (3K).

If you do *not* have a printer, you may delete the following files: ***:System:CDevs:Printer** (6K), ***:System:Drivers:Printer** (3K), ***:System:Drivers:Printer.Setup** (1K) and ***:System:Drivers:ImageWriter** (26K). If you have a printer other than the ImageWriter, you can still delete the ***:System:Drivers:ImageWriter** file (unless your printer is an ImageWriter compatible).

If you do *not* have a 5.25-inch drive, you may delete the following file: ***:System:Drivers:AppleDisk5.25** (7K).

Removing some or all of these files should give you ample room (up to 90K on a ROM 01 IIGS and up to 116K on a ROM 03 IIGS) on your startup disk to install EGOed or any of the other system utilities on your *GS+* Disk.

System Software v6.0

If you use the System 6 **:Install** disk to create a minimal, 800K, System 6 boot

disk, that disk will have 26K of free space on it when the installation is finished.

It must be noted that *all* of the files on this disk are *very* important and the files that you can *safely* remove depend, for the most part, on your hardware setup. So, please read these instructions carefully before removing *any* files.

The first two files you can delete depend on what you will be doing with your IIGS. If you will not be running AppleSoft BASIC programs, you can remove the file **BASIC.System** (11K) from the root directory of the disk. If you will not be running ProDOS 8 software, you can remove the file ***:System:P8** (18K).

If you do not care what time it is, you can delete the following file:
***:System:CDevs:Time** (11K).

After that, the other files that you can safely remove depend on your *hardware setup*.

If you have a ROM 01 IIGS, you may delete the file ***:System:System.Setup:TS3** (41K). If you have a ROM 03 IIGS, you may delete the following file: ***:System:System.Setup:TS2** (37K).

If you do *not* have a 5.25-inch drive, you may delete the following file: ***:System:Drivers:AppleDisk5.25** (8K).

If you do *not* have a printer, you may delete the following file: ***:System:CDevs:Printer** (5K).

Finally, if you have deleted the files ***:System:CDevs:Time**, and ***:System:CDevs:Printer**, you can also delete the file ***:System:Desk.Accs:ControlPanel** (19K).

Removing some or all of these files should give you ample room (up to 139K on a ROM 01 IIGS and up to 135K on a ROM 03 IIGS) on your startup disk to install EGOed or any of the other system utilities on your *GS+* Disk.

Note however, that you will *not* be able to print from EGOed or any other desktop program when using a 800K, System Software v6.0 boot disk.

If you want to save even *more* space, you might want to consider using Autopilot as a replacement program launcher. With Autopilot installed on the minimal System 6 boot disk, initial free space goes up from 26K to 163K! You can then use Autopilot to autolaunch the Finder from a second 3.5-inch disk drive and still have plenty of room on your boot disk for lots of system extensions. For more information on Autopilot, see the "Autopilot v2.0" article in this issue.

Self-Extracting Archive

Beginning with this issue, we have begun using GS-ShrinkIt v1.1 to compress the *source code* and related files on the *GS+* Disk into a *self-extracting archive*. To extract the files from the archive, simply double-click on the **GSP.V4.N1.SEA** program on your *GS+* Disk. ***You do not need to have a copy GS-ShrinkIt in order to use any of the programs or other materials on this*** GS+ ***Disk!*** However, you would gain better control over the files you wish to extract if you have GS-ShrinkIt v1.1. If you do not have GS-ShrinkIt v1.1 and you would like a copy, check with your local user group or give us a call here at *GS+* Magazine

DISKLESS?

If you did not receive the disk with this magazine and have decided you would like to have it, just send a check or money order for $6.50 to:

***GS+* V4.N1 Disk Offer**
P. O. Box 15366
Chattanooga, TN 37415-0366

Or call us at 1-800-662-3634, Monday through Friday between 9 a.m. and 6 p.m. Eastern Time, to bill it to your MasterCard or VISA.

Tennessee residents add 7.75% sales tax.
Price includes First-Class delivery to the U.S., air mail to Canada and Mexico, or surface mail to all other countries. Add an extra $3.50 ($10 total) for air mail to all other foreign countries.

IMPORTANT!
Use scissors or a knife to open disk bag!
Do not attempt to pull bag away from magazine!

and we will try and help you locate a copy.

What's On The Disk

The programs on this disk *require* System Software v6.0 unless explicitly stated that System Software v5.0.4 or later is required. There are eight 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. Please try to read this file before you attempt to use the *GS+* Disk. This is a plain text file.

Documentation

This folder contains the glossary as well as the EGOed and Quick DA documentation files. The glossary is a plain text file containing all of the terms defined in the past installments of our "Glossary" department.

GSP.V4.N1.SEA

This is a self-extracting archive (SEA) containing the source code and related files for all the programs contained on this *GS+* Disk. To extract the files from the archive, simply double-click on this file from the Finder. Note that if you try to extract *all* of the files from this archive at one time, they will *not* fit on an 800K disk.

Icons

This folder contains Finder icons used by the various programs on the *GS+* Disk.

Installer

This is the Apple IIGS Installer. Run it to install the other programs on this issue's disk. For more information on using the Installer, refer to your IIGS owner's manual.

Programs

This folder contains the Autopilot, Debug, EGOed, II Notes, Open From Desktop, and Quick DA programs. Use the Installer provided on your *GS+* Disk to automate the installation of these programs.

Scripts

This folder contains all of the scripts that are used by the Installer in order to automate the installation of the files from this *GS+* Disk.

Talk.To.GSPlus

This folder contains the feedback form, the problem form, and the *GS+* writer's guide.

The feedback form is a plain ASCII text file. Fill it out, and send it to us to let us know what you thought of this issue of *GS+* Magazine and what you want to see in future issues of *GS+* Magazine. (Note that we did not have room for a printed Feedback form in this issue of *GS+* Magazine. If you do not get the *GS+* Disk, but know someone that does, ask them to print you out a copy [don't forget to set *condensed* printing mode] of this file so that you may fill it out and send it in.)

If you have a problem with one of our programs, *please* fill out the problem form and send it to us—it is a Teach file and you may use EGOed or the Teach application provided with System 6 to view it.

The writer's guide is a Teach file that explains what you need to do in order to write reviews, articles, programs, etc. for *GS+* Magazine—you may use EGOed or the Teach application provided with System 6 to view it.

Please Remember...

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

How To Get System 6

Everyone should have a copy of System 6. Fortunately, we have a license to distribute it to our magazine-and-disk subscribers as a part of their subscription. Unfortunately, we can't afford to mail all five of the disks that System 6 takes up to every magazine-and-disk subscriber. However, we still want to make it easy for you to get System 6. So, if you are a subscriber to *GS+* Magazine with the companion *GS+* Disk (sorry, but we can *not* distribute System 6 to our magazine-only subscribers), send us the following items and we will send you System 6:

1) Five (5) *blank* and *formatted*, 3.5-inch diskettes. We are asking for "blank and formatted" disks because formatting takes time that we don't have, and its a great way to tell if a disk is good before you send it to us. *If you send us a bad disk, we aren't going to replace it.*

2) A *self-addressed* return disk mailer with enough postage on it to mail the five disks back to you. (Foreign subscribers without access to United States postage may include International Postal Coupons instead. See your local post office to obtain these.) *If you don't provide a postage-paid, self-addressed return mailer, your disks will be considered "gifts" and will be used for backups.*

3) That's all. Don't send any money. We don't want any money for this.

How Else Can You Get System 6?

If you are a magazine-only subscriber, here are some other ways to get System 6.

Your Apple dealer. Bug them until they get it in for you. The retail price is $39, but that includes manuals. The part number is #A0077LL/A. For the name of your local Apple dealer, call (800) 538-9696.

Your user group. Bug them until they get it in. Take your own disks and they should only charge you a small copying fee. Some user groups may have it already copied for you and available for a nominal charge. (Note that some user groups make these services available only to their members. Of course, you do plan on joining, don't you?) If you need to know where your local user group is, call the Apple User Group Connection at (800) 538-9696 extension 500.

Resource Central. You won't have to bug them, they have it in stock, and in no less than three different "flavors." For just the disks (item number DA-006), the price is $24. For the complete end-user package, including manuals, the price is $39 (item number DA-0013). Finally, if you want the *ultimate* System 6 bundle, you can get the official System 6 Golden Master CD-ROM for only $99 (item number DA-0029). Take your pick, and then give Resource Central a call at (913) 469-6502.

And, of course, if you have a modem, you can download it from your favorite online service. The total download time is about 5 hours. *GS+*

Reviews

ContactsGS
Programmed by "Burger" Bill Heineman

Retail price: $14.95
Not copy protected
Requires one 3.5-inch disk drive

Simplexity Software
13045 Chapman Avenue, Ste 302
Orange, CA 92668
(714) 283-3957

Reviewed by Mark Ranes

ContactsGS is a new Apple IIGS New Desk Accessory (NDA) that operates like a simple Rolodex™ card file. ContactsGS helps you keep track of frequently used names, addresses, and telephone numbers. Because ContactsGS comes to you in the form of an NDA, your information is available from any desktop application that correctly supports NDAs. ContactsGS also has a powerful search function and can even use data stored in phone number fields to dial your telephone.

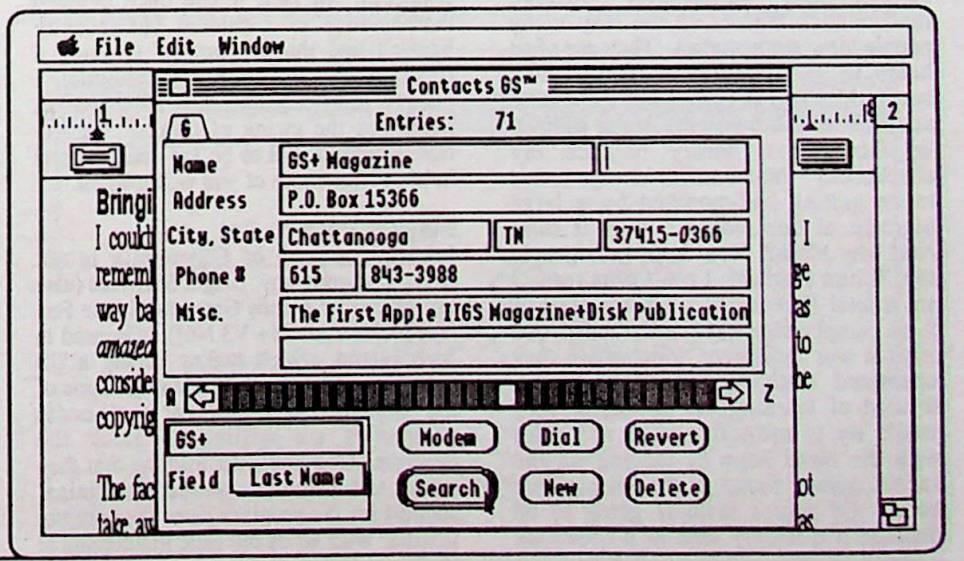
ContactsGS is supplied on a single 3.5-inch disk and is accompanied by a brief three-page instruction manual. The user interface is very intuitive and I found that I really didn't need to read the manual to effectively use ContactsGS. While I know where to place NDAs in my system folder, it's too bad Simplexity doesn't include Apple's Installer (as most utility publishers have lately) to simplify the process for all levels of Apple IIGS users. To their credit, Simplexity does provide clear, easy-to-follow installation instructions in the ContactsGS manual. The actual file is only 17K in size, so it won't gobble up large portions of system memory. ContactsGS creates a simple text data file, **CONTACTSDATA**, that grows in size as you add entries and is saved to your ***:System:Desk.Accs** folder when you close the NDA.

On opening ContactsGS, the user will recognize the familiar look of a Rolodex address system (See screen shot). To create a new entry, the user hits the New button. This creates a blank card ready for new information. Each address card is broken up into individual fields. The user can move between fields either by pointing and clicking or using the tab key. The fields support standard cut and paste operations, so entries that contain identical field information can be entered quickly. I also found it interesting that the fields will scroll horizontally when you type more than will fit in the box surrounding the field. This allows you to use entries that contain up to eighty characters in any field, although you must use the right and left arrow keys to read any information that is beyond the visible field limits. Above the currently displayed card is a count of the total number of entries the user has entered.

In the lower right side of the ContactsGS window are several buttons. In addition to the New button, there are Delete, Modem, Dial, Revert, and Search buttons. Not surprisingly, the Delete button deletes the currently displayed card. The Revert button causes ContactsGS to disregard any changes the user has made since the NDA was last opened. The Search button allows the user to do a key word search on any of the fields except for Address, State, and Zip Code. All the user has to do is enter the text string to search for and then select the field for searching from a pop-up menu. Pressing the Search button causes ContactsGS to display the first record that contains the text string in the chosen field. Unfortunately, because the placement of the pop-up menu is at the bottom of the ContactsGS window, the user must scroll the Search Field pop-up menu if he wants to use anything but the Last Name field. Users can also make use of a scroll bar to move through the different entries in their **CONTACTSDATA** file.

The last two buttons, Modem and Dial, allow you to use ContactsGS to dial your telephone. The Modem button, when pressed, dials the current entry in the ContactsGS window. After dialing, a dialog box tells you to press return to take the modem offline. In order to use a telephone line for voice, most modems must be turned off so they are not online in the phone circuit. I was unable to test this option because I have an internal modem. Prospective buyers with internal modems should be aware that this feature of ContactsGS will be unavailable to them. The Dial button causes the tones necessary to dial a touch-tone phone to be audibly produced through your computer's internal speaker. One problem here. I couldn't get it to work! I went so far as to prop up my IIGS and place the phone directly under the internal speaker. Still no results. After contacting Steven McQueen of Simplexity Software, he informed me that many older Apple IIGS internal "speakers exhibit signs of their age in the form of distortion when sounds are played at a high volume. In ContactsGS's current version, dial tones are played at maximum volume, regardless of your Control Panel settings." Steven mentioned that he will be contacting the program's author about a possible volume control option for future versions. His suggestion was to purchase an inexpensive set of external speakers to attach to the computer. I was able to make a connection when I attached my Bose amplified speakers and retried the dialing process, but I found that it was a bigger hassle to dial using ContactsGS than it was to dial in the traditional manner.

Included in the ContactsGS package is a sales flyer for two products called HyperDialer ($37.80) and The Audio System Selector ($32.32) offered by a company called Bits & Bits, in La Mirada, California. The flyer states, "With ContactsGS and HyperDialer, you can connect your computer directly to your



business or home telephone for automatic phone dialing. (This hook up will shut off your inside speaker.) However, with The Audio System Selector and HyperDialer you will be permitted to use an outside speaker and switch the audio between your telephone or the speaker outside." While this sounds like the perfect working solution, it is an expensive one!

One of neatest features of ContactsGS is the ability to use the **CONTACTSDATA** file with a database program. The **CONTACTSDATA** file is a simple ASCII text file that has the different fields separated by tabs and has the records separated by carriage returns. This type of file can be easily imported into database programs such as DB Master, AppleWorks Classic, and AppleWorks GS. This helps to make up for the fact that ContactsGS can't print address labels. You simply import your data into your database program and print your mailing labels from there.

Bringing It All Together...

I couldn't help but feel a sense of déjà vu as I worked with ContactsGS. After a while I remembered that StyleWare released an NDA called Phone Filer in its DeskWorks package way back in 1987. I pulled out my DeskWorks disk (after blowing off the dust) and was *amazed* at the similarity between the two products. With this said, it would be hard to consider ContactsGS an innovative product and I can only wonder if Beagle Bros. (who now own the rights to the DeskWorks package) has seen ContactsGS.

The fact that the concept of a Rolodex in an NDA has been around for a long time does not take away from usefulness of ContactsGS. It is reasonably priced at $14.95 and is easily as useful as many other shareware utilities at similar prices. Aside from the dialing problems I encountered, it performs as advertised. Overall, ContactsGS is a good addition to your utility library if you have the need to keep track of names, addresses, and telephone numbers. ***GS+***

GSymbolix

Programmed by Henrix Gudat

Retail price: $139.00 with manual
Discount prices: $125.00 for students, $115.00 for schools
Not copy protected
Requires one 3.5-inch drive and at least 1MB of memory. Hard disk drive recommended.

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Phone: +41 61 711 23 83

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P. O. Box 120
Exeter, ME 04435-0120
Orders and Information (USA):
(207) 379-3181

Reviewed by Bill Cross

Mathematics Enlightened

One of my major frustrations as a high school and community college mathematics teacher is the way many people view mathematics. They are often heard to say things like, "Boy, I sure hated my math teachers when I was in school" or "Math was my worst subject. In fact I can hardly balance my checkbook!" Mathematics always seems to be getting bad-mouthed by a large segment of our society. Why is this? And why Math? You don't hear people say, "I hate English! I can't even read. I am a total illiterate." I believe most of these complainers never really understood what it was they were doing when they attempted math homework problems. Instead of learning the concepts, they would try to memorize steps and rules with the blind hope of landing on the sacred answer found in the back of the book. Of course math is going to be disliked if it is only seen as a cookbook full of recipes. There are no easy solutions to this form of "mathaphobia." Mathematics is not an easy subject to master for anyone, even those professors you may have feared when you were in school. What can help students appreciate the subject's beauty are tools which make the abstract more concrete and/or fun. And what tool could be more fitting for enlightening mathematics than the computer? Unfortunately, in the past several years there have been only a few powerful math programs available to the IIGS. So it is with great pleasure I welcome a newcomer to the academic market: Bright Software and its recently released GSymbolix v1.61 which in their words is, "The simple solution to complex math."

GSwing of Things

Now math may not play a major part in your daily life, but as you read this article, do consider your background as a computer user. Math teachers (or parents) may seek your help in selecting software appropriate for their students (your children). In fact, if you once enjoyed mathematics as a student but recently haven't had the pleasure of deriving a function or expanding a polynomial, I believe this program could help you get back into the swing of things! At any rate, I promise not to be *too* mathematical in hopes that more of you will read on.

Playing Hard to Get

Locating a copy of GSymbolix is not easy. The company, Bright Software (also known for its games Gate and Space Fox [see reviews in *GS+* V3.N6]), is located in Switzerland, which makes having a US distributor a must. Unfortunately, none of the standard publishers or mail-order companies are willing to stock the program. One publisher told me that they could not provide adequate technical support for the program since they are not familiar with all of the little mathematical details. They feel support should come from someone with mathematical training. Fortunately, by the time you read this there will be a stateside distributor. His name is Mr. Lawrence Schneider and orders and tech support go through him at the address and phone listed above. I have made several calls to him with good results. The price listed above includes the manual (which I strongly recommend). I originally tried working without the manual, but never really felt I was taking full advantage of all the features GSymbolix had to offer. You can buy only the program for $99 list price, $70 for students, and $60 for schools. Prices for different school packages are also included on the Summer 1992 price list which is available upon request. Let me say again, *get the manual*. If you like programming and mathematics, then request that the Programmer's Notes be included on your disk. These notes give you the information needed to write applications that can be run under the GSymbolix's Extensions menu. This is a no-cost option, my friends, and is done in hopes of encouraging creative minds to help enhance the program (see the "Extensions" section near end of this review).

What's In the Box?

The package I received for review came on a single 3.5-inch disk placed inside a white, vinyl-covered binder/case combination. The only complaint I have with the manual was the location of the updated material. Since it is tacked on to the back of the original manual, it was just a bit inconvenient trying to determine what changes had been made. I have seen updates for other software manuals that have you replace the pages in the original manual with the updated pages. This is something Bright Software might consider for future updates. For now, I suggest you read the updated material at the back before reading the main manual.

Instructions for installing the program on a hard drive don't appear until chapter 8, which is OK, but I was looking for them in the first few pages. Once I found the information, the hard drive installation was easy to complete. Overall, the manual is well done and does a good job of explaining the operation of the program. If you don't read manuals, you'll be pleased to know that the program also provides on-line help.

Competition?

GSymbolix is not the first IIGS program that does mathematics. GSNumerics from Spring Branch Software has been around since 1989, and Glen Bredon's ProSel-16 version 8.65 comes with a calculator program that does some very complicated mathematics. The major advantage GSymbolix has over these programs is its desire to grow. Spring Branch Software has no immediate plans to improve GSNumerics since all their efforts are now being channeled towards the Mac version: MacNumerics. Glen Bredon's program is more text-oriented and not quite as user-friendly as the other two. Neither GSNumerics or GSymbolix have polar coordinates now. But do note that Bright Software has plans to incorporate polar coordinates in future updates to GSymbolix. This is a great plus in their favor and something to consider when buying any IIGS product.

Getting Started

Once installed on a hard drive (you can run the disk alone if you are without a hard drive . . . heaven forbid) and the little calculator icon is double-clicked, we get a neat animated introduction, a nice "please wait" screen, and then the three windows which are the start of the show. A bell rings when the program is ready for you to take charge. The three windows that appear are for the Formulas, Functions, and Variables/Constants. Speaking of windows, many of the menus are window-based and easily manipulated. At first, the screen seems a bit cluttered, but you can easily open and close any of the windows. After working with the program for a short while, I began to appreciate the flexibility the windows offered. Being able to jump from the Graph (2-D or 3-D) window to the Function window for a more critical comparison of the graph with its equation was great. There are windows for the Formula, the Functions, the Stacks, the Stack Commands, the Constants and Variables, the Mathematics, Geometry, and Elements (these last 3 windows, filled with math formulas and elements of the periodic system, are great for quick reference), the Scrapbook (for notes you want to keep for later reference), Evaluating, Solving, Integrating, Trigonometric Conversions, 2-D Plotting, 3-D Plotting, and Preferences. You may now begin to see not only the power of the program, but why a manual is helpful.

A *R*eally *P*retty *N*eat Calculator

Unlike the System 6 Calculator NDA, GSymbolix has a built-in Reverse Polish Notation (RPN) scientific calculator. Reverse Polish Notation may not be something you want to read about now, but the details are explained fairly well in the manual. Once mastered, it can be a more efficient calculator, making complicated computations easier to enter and answers easier to retrieve. (The two stack windows mentioned earlier are related to the RPN portion of the program and not hypermedia). RPN calculators are also a part of the other two math programs mentioned earlier and they all can do computations with Complex numbers. So, you already have a calculator. Why buy a program for that? Well, hold on there is more to come . . . .

Improves with Time (and Manual)

Before proceeding much further, I should say that the operation of the program's features initially struck me as awkward. It didn't seem to flow smoothly. Now, after experimenting with the many different available functions, things don't seem so awkward. It is amazing what a little familiarity with a program (thanks to the manual) can do for your disposition. So, without explaining all the details of *how* to do certain mathematical operations, let's look at what GSymbolix *can* do. I might add that I could not find any mathematical errors in any of the tests I did and, best of all, I had *no* crashes! (Actually, I did have some crashes while trying to use my Floating Point Engine. Bright Software suggests speeding things up with an accelerator card, and not a math coprocessor.)

Great Calculator

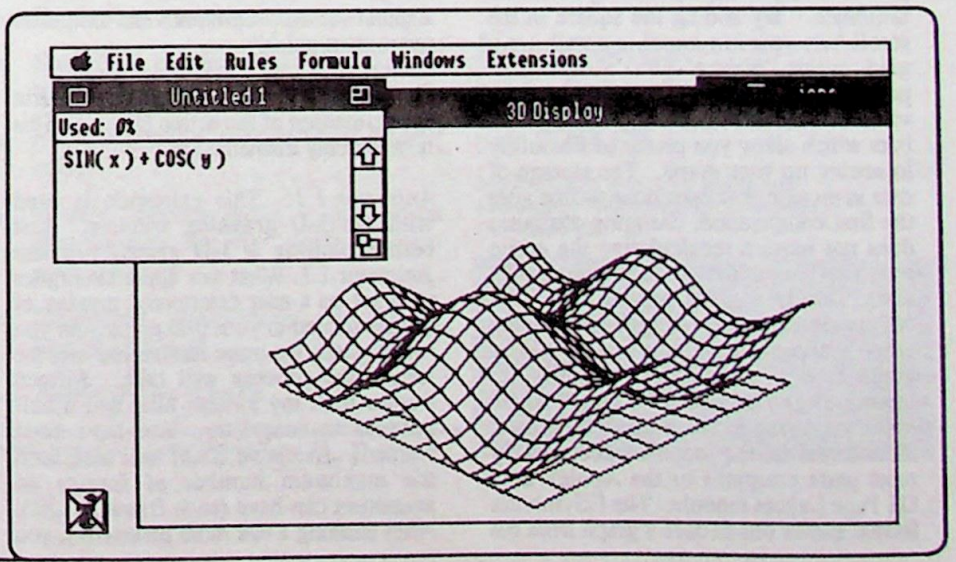
As mentioned earlier, one can compute anything from 1+1 to complex trigonometric functions using the Scientific Calculator. Although most high school students may never see or use some of the functions available, those students going on to higher education will use more of the advanced functions.

Terms of Endearment

Do you remember having to expand binomials of the form (a + b)^2 ? Does the word, "FOIL" sound a bit familiar? Most students, or those who may have forgotten, tend to leave out the middle term and write the answer as "a^2 + b^2". GSymbolix can instantly expand and combine these terms without forgetting the elusive middle term. It leaves you with the following answer: a^(2) + 2*a*b + b^(2). I will say that combining algebraic terms like this has to be one of the best features of GSymbolix. For those who fear that students will copy the results for their homework, let me assure you that most math teachers today look for more that just an answer. Technique and indications of understanding must accompany each problem. Answers are only the means to learning a concept.

Graph Master

When René Descartes first put together two number lines to form the Cartesian Coordinate system, little did he realize the power he had unleashed. And he certainly couldn't have envisioned how computers would be able to make graphing a quick and easy process. Graphing with GSymbolix can take but a few minutes (frequently less than a minute), releasing the student from tedious hours of computation. Now he has more time to analyze. Once you enter a function in the Function window, you can do many things to it, of which graphing is one.



Depending on the function, one can graph in two dimensions or three dimensions. In plotting two dimensions, a window appears which lets you set the graph's limits. Give the signal to go, and shortly thereafter another window appears with the graph. Once there is a graph, you can "play" with it. That is, you can *solve* for either the point of intersection (two graphs in the same window) or the solution (where a single graph hits the x-axis). You can have the x- and y-axis labeled (numbered) to help identify important points. The graph is stored in memory, allowing the Graph window to be adjusted and still have the graph show instantly. You can save the graph and retrieve it later, but you won't be able to adjust it. The parameters and formula you used to generate the graph are not saved. It would be nice if they were, for then you could easily pick up from where you left off.

But the graphing window with the most personality is the one for the 3-D graphs. Set up your function in terms of x and y (F(x,y)= x^2+ y^2 for example) in the Function window, adjust your parameters (called "attributes" in the manual), then sit back and let the computer do the rest. Remember that many, many computations are taking place, so don't expect an instant graph. Running System 6 with 4MB of RAM and a standard TransWarp GS, the functions I tested took about two minutes to complete—but they sure do look good! The resolution on these graphs was set at the average, recommended dosage of 17x17, up to 25x25. You can go as low as 4x4 (if you don't have the time to spare) or as high as 124x124 (if you *do* have the time) but these are the extremes. What happens is the graph or surface is "covered" by squares set by the Resolution. Once the graph is completed you can begin experimenting with the attributes. By sliding the square in the scroll bar, you can watch a small x-y-z grid rotate giving you a "pilot's" perspective of how your graph will be viewed. There are actually three scroll bars which allow you plenty of flexibility in setting up your graph. The storage of data in memory has been done so that after the first computation, changing attributes does not require recalculating the entire graph. If you like to experiment with math, this is a great way to see what effects certain angle changes have on the graph's appearance. You can save your graph in 4 formats: 1) GSymbolix, 2) bitmap, 3) QuickDraw PICT, or 4) Apple Preferred (using an Extension). The latter three forms let the graph be accessed by most paint programs or the AppleWorks GS Page Layout module. The GSymbolix format allows you to save a graph from the program and load it again at another time. The manual was not too clear on how to do this, though. It says to go to the File menu and Open a 3-D Graph. But to actually view the graph you have to click on the Apply button in the 3-D Plot window. This last step is missing from the manual, so take note. All other save commands work as described (for 2-D Graphs and Formula Name).

Printing the graphs is no problem. But I do recommend keeping the "Double Vertical Size" box marked on the GSymbolix print window and setting the Page Setup to Vertical Condense for the best looking graph. Printouts of the 3-D graphs are quite spectacular.

Extensions

The GSymbolix Extensions menu contains programs which are related to one or more of the features of GSymbolix. (This is similar to the Extras menu in the System 6 Finder.) The extensions included with the program disk are fine examples of what can be done. Here they are with *brief* explanations:

Formula Status: Summarizes some information about the active formula.

Fast Variable: Scans the formula for undefined variables. It will forgive any undefined variables permitting the program to run uninterrupted.

Misc. Info: Gives more details about the active formula.

Skeleton: Not for Halloween, but for your own projects.

Apple Preferred: Permits 2-D or 3-D graphs to be save in Apple Preferred format.

Expand Collect: Combines and simplifies terms more quickly.

Taylor: Calculates a Taylor/McLaurin approximation of the active formula. This is heavy duty mathematics.

Animator 1.1: This extension is used with the 3-D graphing window. Just before plotting a 3-D graph, you run Animator 1.1. What this application goes is to set up a user determined number of frames related to your 3-D graph. As you might guess, the more frames you use, the longer the process will take. Fifteen frames took my system nine and a half minutes to complete. You have been warned! Available RAM will also limit the maximum number of frames an animation can have (each frame is 32K). After entering a few more parameters, you are ready to go. What a show. You really need to see this for yourself—words can now capture the amazing effect that animation has on a mathematical graph! Some experimenting may be required to get the animation you want.

Derivatives of *any* Function

Remember, once you have defined your function (or functions, two maximum in a window), you are able to do many things. The Derive function takes the derivative of any function. That's right, *any* function. GSNumerics can take a derivative, but only of a polynomial function. ProSel-16 can only plot a function's derivative. There is nothing wrong with this, but GSymbolix can do more. For example, take a function like f(x)=Sin(x^2). In seconds, the Derive All option will come up with its correct derivative looking like: 2*x^(1)*Cos(x^(2)). Coupled with the 2-D graph plotting routine, you can plot a function and its derivative on the same grid. From a teacher's point of view, this is beautiful. There is a wealth of learning going on when these two graphs are analyzed together. Students benefit because they can see what the derivative represents and not just how to follow a collection of rules.

Real World Integration

The integration is a standard, albeit quick, numerical integration routine similar to those found in GSNumerics and the ProSel-16 Calculator. I was hoping to see one which gives integration in variables as GSymbolix's Derive function does. But I am in the minority here since there are those in the Education business that say numerical integration is far more valuable in the "real" world than the resulting variable expressions. I think I agree but it's not as much "fun."

Hopes for the Future

I apologize for getting carried away with all the math details. Too much of a "good" thing can bore the reader. However, I do want to say that GSymbolix has many more items not mentioned here that work so well in conjunction with the operations I have specified above. There are just a few options I would like to see in future updates:

1) As mentioned earlier, support for Polar Coordinates is a must.

2) Computing the determinants of matrices as done in GSNumerics and ProSel-16.

3) The ability to implicitly graph functions like, x^2 + y^2 = 25 (which is a circle) in the 2-D window.

4) Being able to plot more than two graphs on the same grid.

However, I confess the power and potential for this program made it easy for me to look past these shortcomings.

GSymbollx for GStudents

I believe the intended market for GSymbolix is the student population. Next in line are teachers of mathematics in high schools, community colleges, or universities. Engineers and other applied math professionals could benefit as well. Nowadays, with Macs everywhere and PCs selling for next to nothing, it is hard to find many IIGS owners who are students. However, I had the idea while writing this review that since prices on IIGS computers continue to fall, parents should considering buying their college-bound children a used one (See "Buying Used IIGS Equipment" in *GS+* V3.N2). With all the software that should be included in the purchase price, you will have a fairly nice set up. Including GSymbolix will make a complete academic system for that student in your life. It seems that such a move would prove to be wise and financially prudent over buying a new Mac or PC. Ideally, math and science students should have all the programs mentioned here, GSNumerics, GSymbolix, and ProSel-16 Calculator. The more tools one has in the toolbox the better prepared he or she will be to attack and learn the mysteries of mathematics.

Good Job!

I am not a IIGS programer, but I feel that the author Henrix Gudat has done some superb programing here. It is a shame that many IIGS users not currently involved with mathematics may never experience Henrix's talent and work. Maybe a son or daughter will give an excuse for some out there to experience GSymbolix. In September, I will recommend to the high school where I teach that they purchase GSymbolix. My only hope is that Bright Software will accept a California IOU. *GS+*

Editor's Note

Just before we went to press, Bright Software informed us that version 1.7 of GSymbolix will be released sometime before the end of the year, and will include an improved manual and the ability to combine graphs.

The updated manual (which should be available by November) will be completely revised and will be available to current owners, at cost, from Bright Software.

The ability to combine graphs will let you overlay as many graphs as you wish, with the added ability of color-coding each graph.

Contact Bright Software for more information on the availability of this update.

Diz

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Foundation is useful for all Apple IIGS users, from experienced programmers who want to design their new programs to new users who want to change the colors of a window or better understand how bundles work under System 6.

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(904) 575-0566

Reviewed by Mark Ranes

I wish I had a nickel for every time I've had to dig through three or more nested folders to find the file I'm looking for. Kangaroo, a new utility from the folks at Seven Hills Software, makes the task of folder navigation quick and painless. After several sessions with Kangaroo running on your Apple IIGS, you'll wonder how you ever survived the last five years with your computer! Kangaroo also includes several disk and file utilities that are available in any desktop application.

Kangaroo was written by BrainStorm Software in France and is supplied on one 3.5-inch disk. An excellent 38-page manual is included in the Kangaroo package, although its usefulness is limited because of the excellent online help that is available with Kangaroo. The utility itself comes to your system in the form of a permanent initialization file. Also included in the Kangaroo package is another permanent initialization file, Hierarchic, which gives Kangaroo the ability to use Hierarchical menus. A Hierarchical menu is a sub-menu that opens off to the side of the original when you select that item. Menu items that contain a Hierarchical menu are marked with a right arrow icon. The last utility included is a simple application called KRemove. KRemove searches the volume(s) of your choice and deletes **Kangaroo.Data** (more on these files later) files as well as **Finder.Data** files. It works very quickly and effectively.

The Kangaroo package includes a simple installation program that personalizes your copy of Kangaroo and then starts Apple's Installer program. There are two installation Scripts offered: the first gives you a Full Kangaroo Installation and copies all utilities in the Kangaroo package (including the **Kangaroo.Rez** file that contains all of Kangaroo's online help), the second is a Mini Kangaroo Installation that installs only the Kangaroo and Hierarchic permanent initialization files. The Full Kangaroo Installation requires that 146K be available on your boot disk while the Mini Kangaroo Installation requires that only 105K of disk space be available. 3.5-inch disk users may have to delete some system files from their boot disk to make installation of Kangaroo possible.

After rebooting, you will see the Kangaroo and Hierarchic icons on the system startup splash screen, and occasionally a small kangaroo bouncing over the box containing the boot progress thermometer. After starting any desktop application, you will notice a small Kangaroo icon next to the current path description upon selecting Open from the application's file menu. To activate Kangaroo, then you point to the Kangaroo icon and press the mouse button. The Kangaroo menu contains five main areas: Folders, Files, Volumes, Options, and OS Utilities.

Folder and Files

Choosing Folders from the Kangaroo menu shows you a list of the last ten folders that have been selected. You are made aware of a folder's status in a variety of ways. "Unlocked" folders are temporary and appear as blue text. Unlocked folders will scroll off of the Folders list if they are not accessed again before ten new folders are opened. "Locked" folders are permanent and can not be bumped off of the list. They appear as black text and remain on the list until you remove the folder manually or change its locked status. The locked/unlocked status of a folder can be toggled by selecting the folder and then holding down the Command key before releasing the mouse button. Folders listed in italics are not currently online. Selecting an italicized folder listing causes a dialog box to be displayed requesting that you insert the proper disk. Folder names that appear dimmed have been deleted or had their path changed. Since Kangaroo remembers folders by full pathname, if the path is changed or no longer exists, Kangaroo will not be able to access the folder.

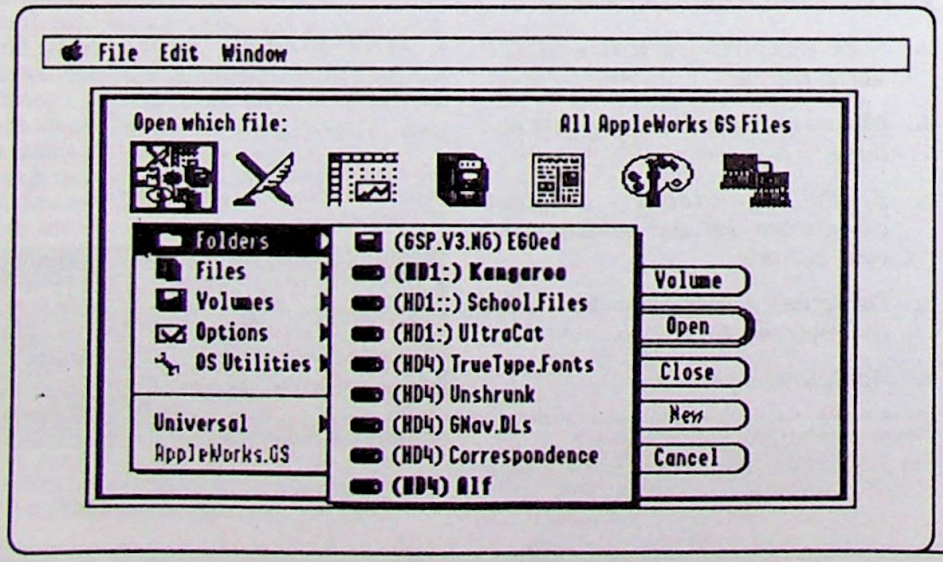
Selecting a folder makes Kangaroo jump to the folder you selected. The selected folder's contents are displayed in the Open dialog allowing you to select the file of your choice. You'll also notice that the most recently selected folder moves to the top of the Folders list. Folders can also be added to the Folders list manually by selecting Add Current Folder from Kangaroo's Options menu. Folders can be removed from the list by first selecting the folder and then depressing the control key before releasing the mouse button.

Choosing Files shows you a list of the ten most recently used files. The status of files in the Files menu follow the same guidelines as apply to folders, with one exception: a file listing may be dimmed if the current application is not able to open that type of file. Selecting a file from the Files menu causes Kangaroo to jump to the proper folder and then highlight the chosen file. All you have to do is hit return or double-click on the filename to open the file. Removing a file from the File list is done in a manner similar to removing a folder.

Selecting the Volumes menu returns a Hierarchic menu of all volumes that are online. Volumes are displayed with a representative icon, volume name, total volume size, and free space available. Selecting a volume displays the root directory of the chosen volume.

Options

Choosing Options from Kangaroo's menu yields yet another Hierarchic menu with the following choices: Add Current



Folder, Add File, Purge Folder, Purge Files, Preferences, Group Setup, Help, and About. Add Current Folder and Add File do as their names describe to the appropriate previously mentioned menus. The folder's or file's status can then be manipulated as you desire.

Choosing Purge Folder or Purge Files results in a pop-up menu that allows you to easily and quickly remove folders or files in a number of ways. You can selectively remove All, Locked, Unlocked, Removable Media, and Dimmed folders and files. Using these options is much faster than removing items from the lists using the control-mouseup method.

Kangaroo Preferences

The Preferences menu item allows you to set global preferences while using Kangaroo. The Preferences dialog box consists of a series of check boxes and allows you to add color to Standard File boxes, draw an icon on the system startup splash screen, and set shortcut keys for many of Kangaroo's functions. Shortcut keys can be set to invoke Kangaroo's Find File function, quickly open the OS Utilities, set a key combination to tell Kangaroo not to install itself on boot, and save Kangaroo's preferences either upon closing the preferences dialog box or quitting the current application. You may also tell Kangaroo whether or not it should check 5.25-inch and 3.5-inch disk drives to see if items in the Folders and Files menus are online. This can dramatically affect how long it takes to open Kangaroo menus and I quickly turned this function off! It can cause some confusion as to which items in Folders and Files menus are actually online and available, but I found that the extra speed was well worth some occasional confusion.

Two more powerful functions are available to Kangaroo users in the preferences section. One of the options allows you to tell Kangaroo to remember the position of the last file you access in a particular folder. Normally, when you open a Standard File dialog box, the first file in the list is highlighted, but with this option active, the last file you accessed is highlighted and all you have to do is hit return to load the files. I love this feature! This function is made possible through the use of the previously mentioned **Kangaroo.Data** files. They work in much the same way as **Finder.Data** files work to remember Finder window information.

The last, but perhaps the most powerful preference option Kangaroo offers, is the ability to add a Hierarchic menu item to any application's File menu. Any menu item that opens a Standard File dialog will be duplicated in the application's File menu. The Hierarchic menu item is red in color and appears under the standard menu item. It allows you to directly open any file in the Files menu and bypass the Standard File dialog! In order to use this function, you must first use the standard menu item, but after it is used once, the Hierarchic menu item is available to you. For instance, after you first use the Open menu item in an AppleWorks GS, a new red colored Hierarchic Open menu item will be available for your use. Once you get used to how this option works, you will use it in every session!

Kangaroo also allows you to assign your favorite applications into logical groups. For instance, you could group your word processing, graphic, and game applications into separate groups so that only those folders and files that pertain to a particular type of application are displayed at the appropriate time. The bottom two items in the main Kangaroo menu tell you the current group selection (Kangaroo defaults to a Universal group selection) and the name of the application you are working with. To assign applications to a particular group, you need to start up the program and then select the Universal menu item to display a Hierarchic menu. The Hierarchic menu allows you to select one of ten different groups available for assignment. After assigning an application to a particular group, you should select Group Setup to set preferences for the new group. Some of the preferences include the ability to display file information, instantly open selected files, automatically purge folders and files on application startup and more. You can also set the number of folders and files that will be displayed in a Folders or Files menu. Kangaroo defaults to ten items, but up to ninety-nine items can be displayed!

If you chose the Full Kangaroo Installation, a file called **Kangaroo.Rez** was placed in your **System.Setup** folder. It contains Kangaroo's online help files. Selecting Help from the Options menu brings up a fantastic pop-up menu for online help. These help files make finding information actually faster and easier than using the manual.

OS Utilities

If all of the previous utilities weren't enough, Kangaroo also offers a set of disk and file utilities that can be accessed from inside any desktop application. While many of these utilities have been available to users in the past in the form of New Desk Accessories, these utilities are available just by clicking the Kangaroo icon and selecting OS Utilities. The OS Utilities include one of the most powerful Find File utilities I've ever seen. Files can be found using text strings, or selecting file size from pop-up menus, file types, creation dates, modification dates, locked/unlocked status, resource forks, or using application filters. Application filters allow you to find only files that can be opened by particular applications. Finally, you can search a single volume or all volumes. Clicking on files that are found allow you to view the path to the item, open the file immediately, or jump directly to the particular folder.

In addition to using the OS Utilities to find files, you can also create a new folder, delete folders and files, rename folders and files, change a file's access status, filetype and creation/modification dates, eject a disk, erase a volume, and format a volume. What more could you ask for? How about that all of Kangaroo's features work well with NDAs, such as EGOed? Sold yet?

Bringing it all together . . .

I would heartily recommend Kangaroo to any Apple IIGS user who maintains a large selection of regularly accessed files. I really wish that Kangaroo had been available years ago. While hard drive users would most benefit from Kangaroo's use, even 3.5-inch disk users will find Kangaroo useful. Unfortunately, because of system disk space limitations, 3.5-inch disk users running System 6 will find Kangaroo use very difficult, if not impossible (get a hard drive!).

When I first heard that Kangaroo's retail price was $49.95, I thought that it was way over priced. After all, a folder jumping New Desk Accessory called SuperDataPath v3.0 is available for just $10.00 in shareware fees. But after working with Kangaroo for just a short time, it became apparent to me that the capabilities of Kangaroo's folder jumping really can't be compared to SuperDataPath. Kangaroo is far more powerful and offers *many* more options than SuperDataPath v3.0. When you add on the OS Utilities that are available within any desktop application, Kangaroo is a bargain at twice the price!

Simply put, Kangaroo is another quality, polished product from the fine folks at Seven Hills Software. Kangaroo performs as outlined in the documentation and I honestly couldn't find any problems with any portion of the program. I personally feel that Kangaroo is a great product. One of Seven Hills Software's finest. *GS+*

ORCA/Debugger

By Mike Westerfield

Retail Price: $49.95
Not copy protected
Requires ORCA/C or ORCA/Pascal

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Albuquerque, NM 87114
(505) 898-8183

Reviewed by Steven W. Disbrow

What's A Debugger?

Let's get this out of the way first (so those of you that aren't programmer's can better spend your time on another part of this fine magazine). A *debugger* is any product that is intended to help programmers identify and eliminate problems (known affectionately as "bugs") from their software. Generally speaking, there are two kinds of debuggers: machine-level debuggers and source-code level debuggers.

Machine-level debuggers allow programmers to view their programs, while they are executing, at the machine language, or Assembly Language, level. For this reason, a machine-level debugger is most useful to someone working with Assembly Language, but it can be used effectively by a high-level language programmer with a decent knowledge of the machine language of the computer they are working on.

Source-code level debuggers allow the programmer to view their program, which was written in a high-level language such as Pascal or C, to view the actual source code for the program, as it is executing. Using a source-code level debugger, the programmer would see each source-code line (and its effect) as it is executed. Generally speaking, this is a much better way of doing things than using a machine-level debugger with your high-level language programs, and it also makes source-code level debuggers very popular with novice programmers.

Having said all of that, let's get on with the review!

Happy! Happy! Happy!

When I received the press release for the ORCA/Debugger several months ago (see "What's New" in *GS+* V3.N5 for a condensed version), I was, to say the least, excited. For quite some time now, I'd been wanting a source-code level debugger to make my life easier. Of course, the old ORCA/Desktop (sometimes referred to as "Prizm") comes with a source-code level debugger, but it only works *inside* the ORCA/Desktop and, even worse, it seems to cringe in terror whenever I try using it to debug EGOed (or anything else that isn't an application). So, I gave up on it a long time ago.

Fortunately, the ORCA/Debugger isn't anything like the ORCA/Desktop debugger. As opposed to being an application that you run, the ORCA/Debugger is a permanent initialization file that installs itself when you boot up your computer. Because it is an Init, the ORCA/Debugger can help you debug almost *any* kind of 16-bit IIGS program—except an interrupt handler. After it is installed, it just sits patiently in the background, waiting . . .

Which Reminds Me

One of the first problems I had with the ORCA/Debugger was simply getting into it! The manual, while otherwise a typically excellent Byte Works manual, is a bit confusing (at least to Joe and myself) on how you actually get into the debugger. The first method is by using an ORCA/Shell utility (provided with the ORCA/Debugger) called DebugBreak. It works like this: you compile your code (with debugging information turned on via the +d flag on the command line—turning on debugging information is a bit different for ORCA/C and ORCA/Pascal, consult your manual for complete details) and then, before you run your program, you execute the DebugBreak utility. This utility sends a message to the ORCA/Debugger to tell it to "start debugging" the next time it sees the appropriate debugging information. (If the ORCA/Debugger does not get this message, it simply ignores any debugging information, except for hard-coded break points, that it sees.) If you are working on an application, this is great. You compile your code, execute DebugBreak and then run the application. The debugger gets the message from DebugBreak and breaks into your application the first chance it gets. However, if you are working on a New Desk Accessory (NDA), or some other non-application (like I was), you have to reboot the machine to install the NDA before you can try to debug it. After rebooting, you have to go back into the ORCA/Shell, run DebugBreak and *then* go and try to debug your program. This isn't that much of a hassle, once you figure out the correct order of events.

Another way to get into the debugger is to simply hold down the option, Command, and shift keys and then press the tab key. Unfortunately, I couldn't get this to work, because I have our window shuffling utility (Shuffle v2.0, from *GS+* V3.N5) installed and it uses the option, Command and shift key combination for itself. This certainly isn't the ORCA/Debuggers fault, but I just can't part with Shuffle, so I had to find an easier way to get into the debugger.

At this point, I saw in the ORCA/Debugger manual that the debugger would *always* break on a hard-coded break point! The only trouble is that the current ORCA editor won't let you put a hard-coded break point in your source code! The only way to put a hard-coded break point into your code is to use the ORCA/Desktop editor.

Luckily, Joe just loves problems like this one, so he rose to the occasion and wrote an external module for Nifty List that, among other things, allows you to send the DebugBreak message to the ORCA/Debugger from inside Nifty List. You'll find a description of this module in a sidebar accompanying this review, and you'll find the Nifty List module on your *GS+* Disk.

Unluckily, I still feel that having to go into Nifty List is a bit of a hassle. So, I wrote some ORCA/C macros that allow you to insert break points into your ORCA/C code. (These macros are on your *GS+* Disk, in the **EGOedDef.h** source file.) This is much handier than having to go into the ORCA/Desktop editor just to insert a break point, and it makes lots more sense than having to run a utility to activate the debugger. Unfortunately, you can't use these from inside ORCA/Pascal, so you will have to rely on one of the other methods to get into the debugger.

Anyway, now that we've actually found our way into the ORCA/Debugger, lets take a look at what it can do for us.

"Hey! That's My Source Code!"

Yes indeed it is! When you first break into the ORCA/Debugger, you'll be amazed to see your source code up there on the screen. If you are familiar with GSBug, you'll be further amazed at the similarity of the ORCA/Debugger display. Your source code is displayed on the right-hand side of the screen, with the remainder of the screen being divided between a stack frame display, a memory protect display, a break point display and a memory display.

The source code display is just that: a display of your source code, with comments and bad-spelling intact! If your program is made up of more than one source code file, you simply press the tab key to switch between them. As you step or trace through your program, the

ORCA/Debugger highlights the currently executing line, automatically switching between source files when necessary. There are only two problems with the source code display. The first is that when you first enter the ORCA/Debugger, or switch to a new source code file for the first time, you will probably get an error telling you that the file could not be found. Simply pressing the return key gets rid of the error message, and no damage is ever done, but it is kind of annoying. The last problem is that the source code display is just too narrow. In trying to be similar to the GSBug displays, the ORCA/Debugger has adopted a source code display that is only 40 characters wide. While this is fine for an Assembly Language listing, it just doesn't cut it for C or Pascal. To look at code past the 40th column, you have to use the "Indent xx" command, where "xx" is the number of the column you want moved over to the left hand side of the source code display. To move back, you have to type an "Indent 0" command. This is an extreme pain. I for one would gladly give up the GSBug familiarity for a source code display that was 80 columns wide!

Stack Frame Display

The stack frame display simply shows you the name of each subroutine that is currently running. This display can be used to determine which local variables the ORCA/Debugger displays in the memory display. Simply type "FRAME" on the command line, and then use the up and down arrow keys to select the subroutine containing the variables you want to look at. Those variables are then displayed in the memory display.

Which brings me to a small problem: there doesn't seem to be any way to display *global* variables from within an NDA or other non-application. However, this isn't a problem in applications, so it probably won't affect most people.

Memory Protect Display

The memory protect display allows you to select lines of your program for the ORCA/Debugger to execute at full-speed. This can be very helpful in a large program, especially if you are only interested in a small part of your program. Another way to accomplish the same thing, although in a much less flexible manner, is to use the "debug" pragma inside your ORCA/C code to generate debug code only for those functions that you want to debug. While there isn't a comparable directive for ORCA/Pascal, you can break your code up into units and use the +d parameter when compiling the units you want to debug. The disadvantage of these methods is that the ORCA/Debugger will only be available in the sections of code that you have generated debug code for.

Break Point Display

The break point display allows you to select lines of your source code that you want to break on. You first select the line of code, and then you set the number of times the line should be executed before

Debug 1.0 (For Nifty List and the ORCA/Debugger)

By Josef W. Wankerl

The ORCA/Debugger comes with three utilities: DebugBreak, DebugFast, and DebugNoFast. These utilities let you put the ORCA/Debugger into its different modes of operation. Unfortunately, these utilities are meant to be run from the ORCA/Shell, so if you're in the Finder debugging a NDA or a Finder Extension and you want to turn on a different debugger mode, you're out of luck. To fix this, I wrote an external command module for Nifty List: Debug. (Debug requires Nifty List v3.2 or later.)

To use Debug, use the Installer on your *GS+* Disk to install Debug on your boot disk and reboot. The next time you enter Nifty List, you will have three additional commands at your disposal: `\debugbreak`, `\debugfast`, and `\debugnofast`. Don't forget that you can use the = command to get information on each command (e.g. `=\debugbreak`) and on all your external command modules (e.g. =\).

***** WARNING *****

If you attempt to use any of the Debug commands without the ORCA/Debugger installed, your system will crash.

COP Killer

When you tell your compiler to generate debug code for a program, COP instructions (COP is supposed to stand for CO-Processor, and its original use was supposed to be to support a co-processor, but the IIGS never received a co-processor) are inserted before each line of executable code. When the COP instruction is encountered, the 65816 processor stops executing the code at the current location and jumps to a COP handler. The ORCA/Debugger installs itself so it gets control when a COP instruction is encountered. The ORCA/Debugger then takes action based on a parameter block immediately following the COP instruction. A complete listing of COP instructions and their meanings is in the back of the ORCA/Debugger manual. If a COP instruction is encountered without the ORCA/Debugger installed, the native COP handler will simply crash the system.

DebugBreak

The `\debugbreak` command tells the ORCA/Debugger to perform a break on the next executable line that has debug code generated. If you compile a program with debug code turned on, but you don't have any hard-coded breakpoints, your program will never enter the ORCA/Debugger. Using the `\debugbreak` command, the next line to execute will be treated as if it has a break on it.

DebugFast

The `\debugfast` command tells the ORCA/Debugger to replace all the COP instructions it finds with JMP instructions so the program is sped up. You should only use the `\debugfast` command when you know that you no longer wish to perform any debugging. Once you have issued the `\debugfast` command, the debug code for each line has been removed from your program and the ORCA/Debugger will not be able to operate properly. If you wish to debug your program some more, you must first quit your program, issue the `\debugnofast` command to turn debugging back on, and then re-run your program. If the program you were debugging was a NDA, you must reboot.

DebugNoFast

The \debugnofast command tells the ORCA/Debugger to start recognizing COP instructions again. *GS+*

the ORCA/Debugger breaks on that line. Another section of this display shows how many times the line in question has been executed. While this is a very nice feature, it does have one very annoying problem: after the ORCA/Debugger breaks on the specified line, you have to reset the break point to have it break on that line again! In other words, if you have a line that you want to break on every time it is executed, you have to set the break point, wait for it to break, reset the break point, wait for it to break, reset the break point . . . etc. Of course, you could set a hard-coded break point in your source code, but you might not always know exactly *which* statement you are going to want to break on until you are actually debugging your code.

Also missing is the ability to break when a variable contains a certain value. This is a real problem in my book, and I can only hope that this capability is added in the next version.

Memory Display

This is where your variables and their contents are displayed. The first thing you will notice about this area, is that it displays all variables as scalar variables. In other words, data structures aren't displayed as data structures. I spoke with Mike Westerfield about this problem at KansasFest, and he informed me that this is because the ORCA compilers simply don't generate the information that the ORCA/Debugger would need to display data structures correctly. However, Mike also told me that he does plan to add this capability to future versions of the compilers and the debugger.

Once I got over that major setback, I found the memory display to be quite good. Each local variable can be displayed in a *wide* variety of scalar forms (word, byte, pointer, long, signed, hex, etc.), you can get a full-screen memory dump starting at the location of a particular variable, and you can manually set the values of variables. All of this is extremely nice, but there is one other glaring omission here: you can not easily look at what is on the other end of a handle. You *can* easily see what is at the other end of a pointer, but if you do the same thing to a handle, you merely see the pointer the handle is pointing at. You then have to type the pointer value on the command line and go into the full screen RAM display to see what's there. Since IIGS programming is so "handle intensive," it would be very nice if there were an easier way to dereference handles.

Other Stuff

The last two problems that I want to mention are that: it's not easy to get to your CDAs from the ORCA/Debugger and, a command history would be nice to have. The first item can be gotten around if you have GSBug installed: you simply go to GSBug and then go to your CDAs from there. As for why I would want a command history, well, with no way to easily dereference handles, it can become a pain to get to the memory location you want, especially when the handle is somewhere in memory and you have to type in two or more addresses to track it down in the RAM display. A command history feature would greatly simplify this, and other, tasks.

Get To The Point Man!

As usual, I find myself in the position of having "ripped to shreds" a really neat piece of software that I'm going to end up recommending because, other than the problems I've outlined above, it is a really *good* piece of software. (Oh, well, that's what I pay me for.)

With the exceptions mentioned above, the ORCA/Debugger is an excellent first-step in bringing the IIGS development world some of the high-powered debugging tools that the rest of the programming universe has access to. If you are a fairly experienced C or Pascal programmer, I would suggest you purchase a copy. However, its lack of a data structure display, and its tendency to throw you back to the machine level (i.e. the constant use of the RAM display to see what's in your variables), make it ill-suited for the rank beginner. If you are an Assembly Language programmer that uses GSBug, or if you are a C or Pascal programmer that is perfectly happy with GSBug, I would recommend that you stick with that. *GS+*

Errata

In our review of Gate (*GS+* V3.N6) we mistakenly said that Bright Software is based in France. Bright Software is actually based in Switzerland. Our apologies.

In our review of the ZipGS (*GS+* V3.N6) we published an incorrect area code for the Zip Technologies technical support line. The correct number is (310) 337-1734. Our apologies to anyone that actually called the incorrect number and got the forensics laboratory on the other end. (Be sure to ask for "Quincy" when you call, forensics people just love that joke.)

If you are using Replicator (*GS+* V3.N6), you should be aware of a potential problem. If you attempt to save a disk image out to a disk that does not have enough space to hold the image, Replicator will tell you that there is not enough space, and you will have to save the image on another disk. At this point however, the disk image will have become corrupted (we aren't quite sure why), so you will actually be saving out a bunch of meaningless garbage. We are working on a fix, but until it is available, you can easily avoid this problem by making sure you have enough free space to save your disk image. If you do get a "disk is full" error when trying to save a disk image, simply recreate the disk image from the original disk and save that new disk image out to a disk with enough space.

Many of you have pointed out that our "Married, Monogamous Couples of KansasFest" issue was lacking documented proof that the couples shown were in fact, married and/or monogamous. To this we say: "You really need a hobby."

Finally, for those of you wondering where page 53 of *GS+* V3.N6 disappeared to. . . the printer lost them, yeah, that's the ticket. They were lost at the printer. It wasn't a joke at all.

If you find an error in *GS+* Magazine, we want to know about it! Send those errata reports to:

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

UltraCat
Programmed by Cecil Fretwell

Retail price: $24.95 + $2 S/H ($3 S/H outside U.S.A.)
Available only from the author
Not copy protected
Requires one 3.5-inch disk drive, and System Software v5.0.4 or later

Cecil Fretwell
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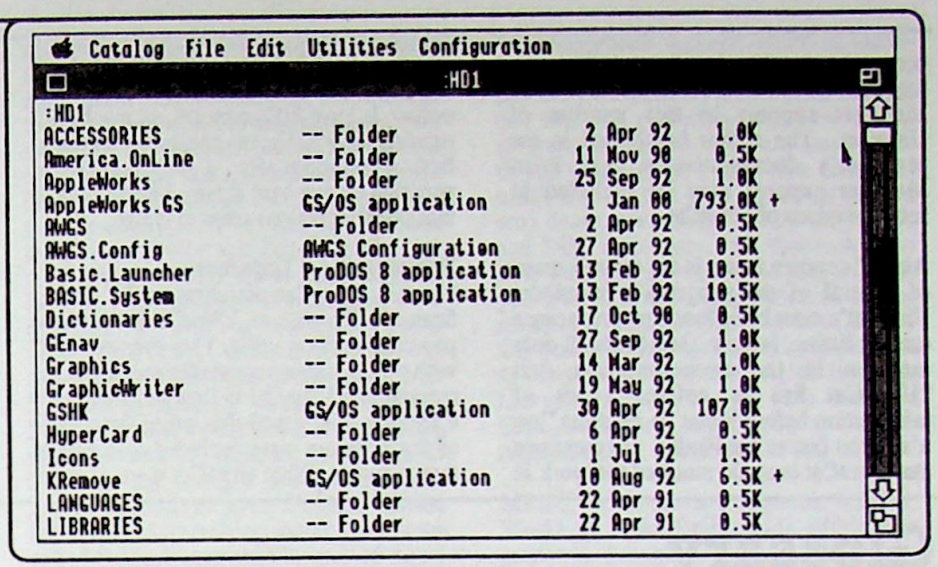
Reviewed by Mark Ranes



UltraCat is a new comprehensive disk cataloging program for the Apple IIGS. It is based on the popular shareware program, SuperCat. While the two programs share the same general disk cataloging functions, that is where the similarities end. UltraCat is a desktop-based program, while SuperCat is text-based. UltraCat is a commercial product and includes enhancements that are not available in SuperCat. UltraCat allows you to catalog entire volumes or directories and then manipulate the collected data for editing, printing, or saving to a disk file.

UltraCat is shipped on a single 3.5-inch disk and includes a well-written 74-page manual. I found the program to be intuitive in nature, and I was able to successfully explore it without reading the manual, but the manual includes many helpful tips concerning UltraCat's functions and a wealth of information on the many different Apple IIGS file types. UltraCat is the type of program one can first "play" with, but that begs you to dig in to the manual after you have mastered its basic abilities.

Like most utility programs published these days, UltraCat includes Apple's Installer program for ease of installation. Also included is a script to install The Byte Works' TEXTPRINTER device driver (more on this later).

UltraCat allows the user to select either entire volumes or specific directories for cataloging. The Catalog menu item allows you to choose the volume or directory you wish to catalog and brings up a Standard File dialog box. After making your selection, UltraCat gathers and sorts the catalog data, and then displays it in a window. The window display includes each file's name, its file type (in plain English!), the date the file was last modified, and the file's size.

If you've chosen a volume to catalog, the catalog listing starts by displaying the volume's root directory. Below the root listing are the individual folders and a listing of their contents. Some files show an additional character that signifies if the file is locked, has a resource fork, or is hidden. If selected in UltraCat's preferences section, a file's access bits can also be displayed. These bits show if a file can be deleted, written to, renamed, read from, or if the file has changed since it was last backed up. At the end of the catalog listing are some statistics relating to the volume you've cataloged. Information shown in the volume's statistics includes the amount of disk space processed, the number of folders and files on the volume, the number of hidden files processed, and the volume's free, used, and total space on the volume. Also given is the amount of space needed to save the catalog window's contents to disk.

One of the most powerful features of UltraCat is the ability to use masks to display particular types of files you may wish cataloged. Masks let you specify particular file and folder attributes you want UltraCat to use while cataloging. For instance, masks will allow the cataloging process to display only Teach files that were created after 1/1/92. There are seven different masks that can be used individually or collectively. They are File, Type, Date, Size, Attributes, Resources, and Hidden. If no information is entered for a particular type of mask, it is ignored. In addition to simply entering text information into the mask fields, you can also use operators like &,<, >, = to further narrow the field of your catalog. Once you have entered all of the information you wish to match in the entry fields, selecting the OK button starts the cataloging process, listing only those items that match the criteria you have specified. The ability to use masks is what separates UltraCat from other utilities that perform simple cataloging functions.

After UltraCat builds a catalog listing window, you can choose to do several things with the information. One option is to save all or just selected portions of the catalog listing to disk. Information is saved to disk as a simple text file and can be called up later within UltraCat or by any word processor. If opened by a word processor, catalog listings will no longer be aligned in columns unless they displayed in a monospaced font, like Programmer (supplied on the UltraCat disk) or Courier. Another option is to print all, or just selected portions, of the catalog listing. In its current version, UltraCat does not use the standard Apple IIGS Print Manager. It simply sends text to the printer. The Byte Works' TEXTPRINTER device driver is included in the UltraCat package to facilitate printing on a variety of printers. I experienced no problems printing to an ImageWriter II without the TEXTPRINTER driver. Information is included in the manual outlining installation and use of the TEXTPRINTER driver. A last option allows you to search the active catalog listing by using functions in the Utilities menu. You can search for text strings either forward or backwards.

Concerns . . .

My greatest concern regarding UltraCat's function is that it does not print using the standard Apple IIGS Print Manager. Because UltraCat sends only straight text to a printer, the use of different fonts is not supported. I've come to expect the use of multiple fonts in desktop-based programs. Also, I was never able to get UltraCat to recognize my LaserWriter. While users can work around this problem by loading catalog listings into a word

processing application for printing, it's too bad Mr. Fretwell did not include Print Manager support in this version of UltraCat. The author has hinted in the program's documentation that Print Manager support may be included in future versions of UltraCat.

Also of concern to me is the overall speed of several of the program's functions. UltraCat's most basic function, preparing a catalog listing, is slow. Mr. Fretwell does mention in the documentation that "UltraCat has to collect a lot of information before it can do its thing," so it's not as fast as the Finder. He mentions that UltraCat must do much of the work in creating catalog listings, as GS/OS does not store file information in alphabetic order. It took 2:57 minutes on my IIGS, running at 9 MHz, to create the catalog listing window for a 32 megabyte partition on my hard drive. I also noticed that search functions seem to crawl.

Bringing It All Together . . .

Overall, UltraCat performs well. Aside from speed problems, UltraCat is the most powerful catalog utility I've ever worked with. The author repeatedly states in the manual that UltraCat is first and foremost a catalog utility and that other functions of the program were included to support that purpose. What UltraCat does, it does well. However, users should not purchase UltraCat expecting a lot of bells and whistles. It is simply a disk cataloging utility. I can only wonder if most users need such a specialized utility. However, if you *do* have the need to catalog disks on a regular basis, UltraCat will perform tirelessly for you. *GS+*

Editors Note

Mr. Fretwell has graciously offered *GS+* Magazine readers a five dollar discount off the regular price of UltraCat if they order before December 31st, 1992, and if they mention this review.

Glossary

In each issue of *GS+* Magazine, we present a glossary of some of the more common terms in the IIGS world and some of the more uncommon terms that we use in each issue. If you have a term or bit of jargon that you would like to see explained, let us know and we'll try to get it in a future "Glossary" installment. Also, don't forget about the glossary that's in your IIGS owner's manual! At this point, it contains many more terms than the *GS+* Glossary!

Past installments of the *GS+* Glossary can be found on your *GS+* Disk in the plain ASCII text file, **Glossary**, in the **Documentation** folder. (Entries marked with an "*" have appeared in previous installments of the *GS+* Glossary and are repeated here for our beginning readers or because they have relevance to topics discussed in this issue.)

Classic Desk Accessory (CDA)

A Classic Desk Accessory is a text-based "mini-application" that you can access by pressing the Command, control, and escape keys at the same time. Pressing these keys will present you with a list of the Classic Desk Accessories installed in your system. For the most part, Classic Desk Accessories are available from within *all* programs, however, some older 8-bit applications may "lock you out" of the Classic Desk Accessories menu.

Command Key *

The Command Key (also known as the Open-Apple key) is a key that you press in combination with other keys to send commands to the program that you are using. These key combinations are known as "key equivalents" or "shortcut keys" that may be used instead of choosing an item from a menu. For example, in the Finder, the menu item "New Folder" has a shortcut key combination of Command-N. To activate this item, you would simply hold down the Command key and then press the "N" key.

CPU

"CPU" stands for "Central Processing Unit." The Central Processing Unit is the computer chip that acts as the "brains" in a computer. In the IIGS, the CPU is a W65C816, which was designed by Dr. William Mensch, Jr. at The Western Design Center, Inc. (The term "CPU" is also sometimes used to refer to the box that actually holds the CPU chip.)

Debugger

A *debugger* is any product that is intended to help programmers identify and eliminate problems (known affectionately as "bugs") from their software.

Public Domain Software

Public domain software is software that the author has decided to distribute free of charge. In addition, the author has given up his or her rights to the software. Compare this with "freeware," and "shareware." (The definitions of these terms are on your *GS+* Disk in the **Glossary** file.)

Installer *

The Installer is a program that automates the process of copying files. It is provided with the IIGS System Software and with many third-party software products (such as *GS+* Magazine). In the simplest terms, the job of the Installer is to "put the right files in the right places." By using the Installer (when provided) you reduce the possibility of the wrong file being copied to the wrong place.

New Desk Accessory (NDA)

A New Desk Accessory (NDA) is a desktop-based "mini-application" that you can access from the Apple menu of any IIGS desktop program that correctly supports them. New Desk Accessories can do just about anything that a full-fledged application can do, with the added advantage that they are always available from within the application you are working with.

Screen Saver

When you leave your monitor on for long periods of time without doing anything, you run the risk that the unchanging image on the screen will become "burned" into the the screen permanently. A screen saver helps prevent this from happening by playing an animation on the screen.

Self-Extracting Archive (SEA)

A "self-extracting" archive is a program that contains an archive. This program knows how to extract the contents of the archive attached to it. From the Finder, a self-extracting archive would show up on the desktop as an application program. You would simply double-click on it and it would launch, giving you an opportunity to tell it where to place the files after they are extracted from the archive.

System Extension

"System Extension" is a generic term for any program that adds capabilities to your computer system. For example, Classic Desk Accessories, New Desk Accessories, Control Panels, and Finder Extensions are all examples of system extensions. *GS+*

Storybook Weaver: World of Make-Believe

By Carolyn Kapplinger, Patricia Korn, and Jean Sharp

Retail price: $59
Typical mail-order price: $41.95
Copy protected
Requires 1MB RAM and two 3.5-inch drives, or one 3.5-inch drive and a hard disk.

Minnesota Educational Computing Corporation (MECC)
6160 Summit Drive North
Minneapolis, MN 55430-4003
(800) 685-6322

Reviewed by Greg Zimmerman

"All the world knows me in my book, and my book in me."
—Michel Montaigne, *Essays*, 1580-1588

My thinking about children's software is that at a minimum, it should relegate the computer to the role of silent tool; a facilitator of sorts, where the child doesn't "learn computer," but where the computer eases the instruction of the child in other subject areas. To be sure, great software and great computers can do even more than this seemingly simple task. And just as the right horn allows the trumpet player to reach new heights in his music, the right software tools can ring plenty of educational notes as well. It's almost as if the best software gets the computer out of the way of the task at hand. The child isn't "computing," the child is writing, or spelling, or pronouncing, or reading, or fact finding, or . . . you get the point I hope.

Storybook Weaver: World of Make-Believe is just that kind of software. It is a writing program that allows young children to dream and imagine and have fun. And while the child is enjoying the software, words are being put on paper (so to speak) and creative thoughts are being stirred up in the child. Now, I know some of you may say that children usually come equipped right out of the box with more imagination than a blankety-blank politician, so why stir things up further? And while I would agree most children have it, one challenge of education is to channel a child's creativity and imagination into positive accomplishments. This is the strength of Storybook Weaver: World of Make-Believe. It allows the child to create, and in the process, the child learns to write, to organize the thought process in some logical fashion (or some illogical fashion that my old marching band conductor called "orderly bunches"), and of equal importance, it allows the child to accomplish writing tasks because of its ease of use and "out of the way" user interface.

Time for Details!

Storybook Weaver: World of Make-Believe is similar in concept and operation to Storybook Weaver: World of Adventure (reviewed in *GS+* V3.N1). The main difference is that, in World of Adventure, the story elements that the child has to work with are based (for the most part) on the "real" world (astronauts, fire-fighters, airplanes, etc.). In World of Make-Believe, the story elements are taken mostly from the realm of fairy tales and fantasy (trolls, wizards, dragons, etc.).

The program comes on two copy-protected 800K disks. I tested it using System 6 and found no adverse effects. It runs on either a ROM 01 or ROM 03 IIGS, it will work from a hard drive (more on this later), and it is miserably slow from the floppies.

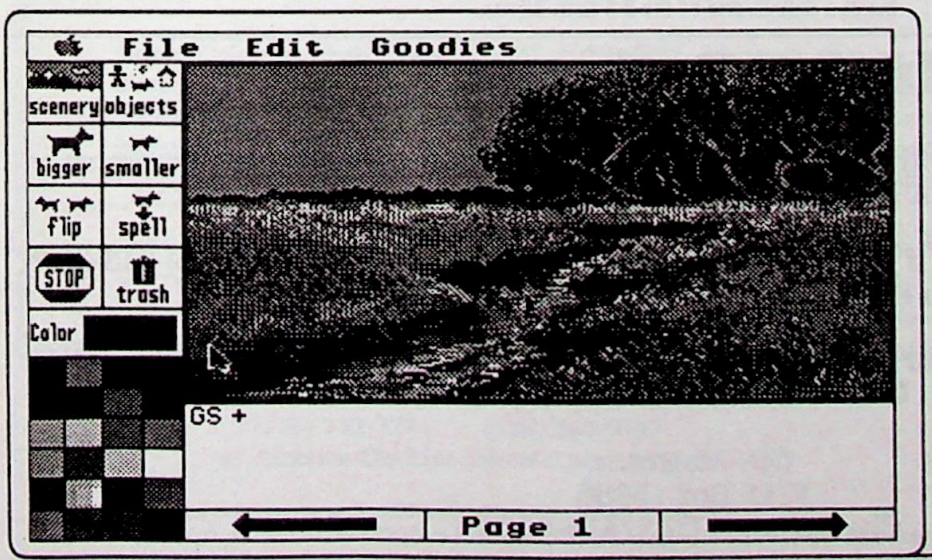
With Storybook Weaver: World of Make-Believe you get the great MECC support, the toll-free number, a first-class manual that tells you everything you'd ever want to know about the program (and some things you couldn't care less about, as well), and the two well-known (at least to me) desk accessories MECC Key Caps and Disk Accessory. So that these two DAs will also be well known to those of you who are not regular readers of my reviews, I will tell you that MECC Key Caps enables you to find the complete set of diacritical marks and foreign language and special characters for each font, and Disk Accessory allows you to format, rename, delete, and do other "disk stuff."

MECC recommends Storybook Weaver: World of Make-Believe for children in grades K through 6. Though it may be a little much for some younger children, this grade level recommendation seems appropriate.

How Does It Work?

Storybook Weaver: World of Make-Believe is a desktop program, but its operation reminds me most of PrintShop IIGS. It has simplified menu selection (that doesn't exactly fit into the Apple Human Interface Guidelines as I interpret them), it simplifies the building of the story for the child, it restricts the storybuilding somewhat (to keep it simple), and it contains lots of pre-made graphics and artwork from which the child can build the scenes that can accompany what is being written.

The first thing a child sees after the program boots is a simplified dialogue box style menu which allows the child to start a new written document, finish an existing one, read (but not edit) an existing document, print an existing document, or quit the program.



Once the child decides to start a new story, a blank title page appears, which contains four pre-set choices for the child. Title, Author, and other information are the three choices put before the child for text input, and each text box that appears to hold this information is pre-set to appear in a particular place on the title page. The child can move these text areas around, and the text in them can be colored using one of four color choices, but the set-up of the software seems to make it easy for a child to accept the given choices and concentrate on writing, not on things like re-sizing text boxes, or moving them around. The last choice on the title page is the border, which let's the child place a pre-made border around the title page by selecting one of the borders supplied with the program.

Clicking on the right-hand arrow at the bottom of the page brings up a selection wherein the child must decide if the next new page will be text only or if it will be text and pictures. The text only page provides for between eight and seventeen lines of text, while the mixed page can accommodate only two to four lines of text, depending on font size. Of course, a picture may speak a thousand words (not always those intended by the author), so MECC must believe that more room is not necessary on the mixed use pages for the child's writing.

For graphics, pre-made scenes are available for selection from easy to understand buttons, and these scenes can be mixed to some degree, to create a large number of "original" pictures. The program even provides for a day or night view of each scene. Pre-made objects can then be placed in the scenes, with the child choosing from among over 500 objects which are broken down into easy-to-use categories. Objects include everything from people to animals, vehicles, and buildings. The child can easily select and drag into the scene whatever objects fit into the story being written, and the program provides an easy way for the child to change the size of the objects (and to flip the objects) to best fit into the scene being developed.

One nice feature allows the child to click on a button and automatically insert the name of any object that the child placed in a scene into the text of the story that the child is writing. So even if the child cannot spell the name of an object, the program allows the child to have that name placed in the developing story.

The program supports a limited number of additional editing features including cut and paste, and inserting, copying, swapping, and deleting pages.

The program supports color printing on ImageWriter II printers, will print to LaserWriters, some Epson models, and it will print over an Appletalk network.

The Bad Points

There usually are a few bad points to every program, and though I liked this one, it is no exception.

The simplification of the user interface sometimes has the effect of restricting the child's choices when writing. This is a good thing if handled properly, because it gets the "computing" out of the way and allows the child to concentrate on writing and creating. But, some of the simplification is a little over done for kids in the upper end of the recommended age group. For example, when selecting font sizes in the text areas of pages, the Goodies menu gives you three choices. They are small, large, and fancy. This might be a little light for fifth and sixth graders.

Finally, the fact that the program is copy-protected is very annoying. Or I should say, it *was* very annoying. I was able to get around the copy-protection two ways. The one you should use will depend on how you are going to be using the software and the equipment you have.

First, I did a sector copy of the original program disk using Copy II Plus. The copy worked just as the original did, and no "insert the original disk" message appeared while using the copy. However, I did have a problem when I copied the program disk to my hard drive, and tried to launch the program there—I then got the old "insert the original disk" message again. Fortunately, the copy I made earlier got me past it. But let's face it, this is a headache. If every time I wanted to launch a program from my hard drive, I had to insert a disk in one of the 3.5-inch drives, there'd be almost no point in having a hard drive! The solution to this problem actually arrived at my home a while back, in the form of a generic "MECC Deprotect" which was supplied to me by *GS+* Contributing Editor, Mark Ranes. To save time, I tried it on this program, and it worked. The deprotect is to search for the hex string "C9 27 00 D0 02 18 60 38", and when you find it, change the "38" to "18". The program will then run from a hard drive without the disk check. If you are going to do this, remember to do it on a *copy* of the program, not on the original! And if you need more detailed instructions, drop me a note at my America Online address (KidCobra) or write to me in care of *GS+* Magazine. In the meantime, thank you Mark!

Summary

Storybook Weaver: World of Make-Believe is great software for its intended purpose. It gets the computer out of the way, and lets the child concentrate on the important stuff. And the make-up of the program eases the way for the child to be successful in creating something to be proud of, while at the same time keeping the child's interest through the combination of easy to select and arrange graphics and text.

For educational software, I have an easy "smell" test. I have four kids (ages 4 to 9) that fit right in the recommended age category of most software I review. They all tested Storybook Weaver: World of Make-Believe, they all liked it, they all wrote with it, and they all accomplished something using it. The house got a little quieter while they were busy, and I got to see some nice results due to their writing efforts. As a parent and a teacher, what else could I ask for? I recommend Storybook Weaver: World of Make-Believe, without reservation. *GS+*

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Sep-Oct 1989 (V1.N1)
- System Software 5.0 Compatibility Chart
- NoDOS - A file utility New Desk Accessory (ORCA/C)
- Graphics Galore - Drawing "how-to" w/pictures on disk
- Reviews of Arkanoid II (new custom levels on disk), Crystal Quest, ORCA/C, Rocket Ranger, Silpheed, Test Drive II, TransWarp GS, Turbo Mouse ADB

May-Jun 1990 (V1.N5)
- AppleFest Report
- Beginner's Guide to System Disks - Part 1
- GS/OS prefixes - PreFixer CDev (ORCA/Pascal)
- Brush with Greatness - How your IIGS makes colors
- Reviews: CMS 45MB Removable Hard Drive, S&S-RAMCard, DataLink Express modem, Visionary GS digitizer, GraphicWriter III, ZapLink, McGee, Math Blaster Plus IIGS, The New Talking Stickybear Alphabet, ZipGS

Jul-Aug 1990 (V1.N6)
- KansasFest Report
- Beginner's Guide to System Disks - Part 2
- Translusion - An NDA terminal program (ORCA/C)
- Reviews of AMR AS800K 3.5-inch drive, Salvation: The Exorciser, Disk Access, MD-BASIC, Katie's Farm, Task Force, BLOCKOUT, OMEGA, 2088: The Cryllan Mission, Hunt for Red October, Revolution '76, Where in the U.S.A. is Carmen Sandiego?

Sep-Oct 1990 (V2.N1)
- Brush With Greatness - making the most of your digitizer
- Interview with Brian Greenstone (programmer of Xenocide)
- PING - video table tennis program (Merlin assembly)
- Shuffle - an Init that shuffles desktop windows (ORCA/M)
- Battery Brain - CDev that saves BRAM parms (ORCA/C)
- Reviews of GS Sauce memory card, Salvation: Wings, World GeoGraph, Orange Cherry Talking Schoolhouse series, QIX, Solitaire Royale, InnerExpress

Jan-Feb 1991 (V2.N3)
- AppleFest/Long Beach '90 & Apple II Achievement Awards
- Interview with Jim Carson of Vitesse, Inc.
- Introduction to System Software v5.0.4
- RAM Namer (CDEV) - renames RAM disks (ORCA/C)
- *GS+* program updates - Battery Brain, EGOed (ORCA/C), GWIII TeachText Translator
- Reviews of ZipGSX, LightningScan, Design Your Own Home, Print Shop Companion IIGS, Your IIGS Guide, Dragon Wars, 2088: The Cryllan Mission - Second Scenario, Space Ace, Sinbad & the Throne of the Falcon

Sep-Oct 1991 (V3.N1)
- Protecting Your Investment - A Guide to Surge Protection
- A Conversation with Roger Wagner - Part 2
- Working with the Toolbox - Part 4: QuickDraw II
- FGS - A Fractal Generator (ORCA/C)
- *GS+* program updates - EGOed, Autopilot, NoDOS
- Reviews of two 100MB hard drives, Nite Owl Slide-On Battery, ORCA/Integer BASIC, ORCA Talking Tools, Storybook Weaver: World of Adventure, HyperBole, HoverBlade, Shareware: DeskTop Painter, SoundSmith, IIGS Classic: The Bard's Tale IIGS

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Jan-Feb 1992 (V3.N3)
- How Printing Works - an article by Matt Deatherage
- Working with the Toolbox - Part 6: The Resource Manager
- Buying & Using Mac Hard Disks
- Cool Cursor - A Control Panel that replaces the old watch cursor with an animation. (ORCA/M and ORCA/C)
- Replicator - Desktop based disk duplication program that works with any GS/OS device and file system (ORCA/Pascal)
- *GS+* program update - EGOed
- Reviews of MacLand 105MB Hard Drive, Tulin 120MD Hard Drive, SuperConvert, Signature GS, Learn to Program in C, 4 shareware reviews.

May-Jun 1992 (V3.N5)
- TrueType on a LaserWriter
- Using Archiver
- Writing Phantasm Screen Blankers
- Working with the Toolbox - System 6 Updates
- Whoosh - Control Panel written in ORCA/M that turns off the System 6 whooshing rectangles
- Rebuild Desktop - Finder Extension written in ORCA/C that will rebuild the invisible desktop file under System 6
- *GS+* program updates - Cool Cursor, EGOed, Replicator
- Reviews of Pegasus Internal Hard Drive, Express, Formulate, Second Chance v2.0 & X2, Shoebox

Jul-Aug 1992 (V3.N6)
- KansasFest 1992
- Introduction to 3-D Graphics - Part 3: Speeding Things Up (ORCA/C)
- Working with the Toolbox - Part 8: The Control Manager
- Understanding FSTs
- Using rBundles in Your Programs
- Quick Folder (Finder Extension) - Open folders from the System 6 Finder's Extras menu (ORCA/C)
- Extra Bits (Control Panel) - Change new Battery RAM parameters that System 6 didn't provide a Control Panel for
- *GS+* program updates - EGOed , Quick DA, Replicator
- Reviews of ZipGS (10MHz CPU/64K Cache), Gate, Space Fox, Utility Launch & Utility Works

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Quick DA v2.1

By Josef W. Wankerl

Opening New Desk Accessories (NDAs) and Classic Desk Accessories (CDAs) with Quick DA v2.0 (*GS+* V3.N6) is really great, but I've always wanted the ability to quickly open control panels as well. Well, now I can! Version 2.1 of Quick DA sports a new pop-up menu that allows you to assign control panels to control-keypad keypresses just as you would assign a NDA or CDA. (Those of you that are new to *GS+* Magazine should check out the "What is Quick DA?" sidebar for more information on Quick DA.)

Some Installation Required

To install Quick DA, use the Installer program on your *GS+* Disk. If you need help using the Installer, see the "How to Use your *GS+* Disk" article in this issue. After you install Quick DA, you must reboot for it to be available.

What's New?

For one thing, the control panels pop-up menu is new. Also, a new **QuickDA.Prefs** file is created to store the state of the "Active" checkbox, the list of known control panels, and the current prefixes for the load and save directories. If you're interested the **QuickDA.Prefs** file is described in the file **GSP.FTN.5A.8049**, which is on your *GS+* Disk. Other than that, Quick DA will function just as it has in the past. Just make your new assignments and go. One thing to note is that Quick DA 2.1 will recognize your old **QuickDA.Config** files and use their assignments; however, Quick DA 2.0 will not be able to use the **QuickDA.Config** files that Quick DA 2.1 creates. This should not be a problem, though, since everyone *always* uses the latest version of everything, right?

Is That All?

Well, yes and no. "Yes," that's all that's new in Quick DA v2.1, and "No," that's not all you need to do. You still need to be sure you read the **QuickDA.Docs** file (which is on your *GS+* Disk), so that you can get the most out of Quick DA.

As always, I want to know what you think of Quick DA! If you have any comments or suggestions, be sure to send them in. And, as usual, if you find a problem with this program, fill out the problem form supplied on your *GS+* Disk and let me know about it.

Now, if you want a brief overview of the technical side of Quick DA v2.1, read on . . .

Programming Considerations

Quick DA 2.1 is pretty much a complete rewrite of the Quick DA 2.0 code. A *lot* of internal changes have taken place, and I've finally written the code "right."

For example, Quick DA 2.0 was still using numbers to keep the desk accessory assignments, however the numbers were generated at boot time (and whenever Quick DA was opened). Quick DA 2.1 maintains the assignments by name *always*. Just about *everything* is changed!

In order to open control panels, I had to rewrite Quick DA almost from scratch! (And it didn't help that I lost the source code two or three times in the process, either!) The only thing that *didn't* change is the code that actually opens the NDAs and CDAs, but it has been moved out of the Desk Manager patch and into a request handler.

Pardon Me...

"...but would you happen to have any Gray Po... uh... how about just opening a desk accessory for me?" To get its work done, Quick DA installs a request handler at boot time. With the request handler, all the `SystemEvent` tool patch has to do now is watch for a control-keypad sequence, and then send a `qdaOpenDA` request to the Quick DA request handler. You can write programs to take advantage of the Quick DA request handler.

An example of a program that sends requests to the Quick DA request handler is, *surprise*, the Quick DA control panel.

What Is Quick DA?

Quick DA is a Control Panel (CDev) that allows you to call up your frequently used New Desk Accessories, Classic Desk Accessories and Control Panels with a single keystroke.

To use Quick DA, you *must* install it on a IIGS System Software v6.0 (or later) startup disk with at least 35K of free space. For more information on installing Quick DA, see "How to Use your *GS+* Disk."

For complete user documentation on Quick DA, read the file **QuickDA.Docs**, which is on your *GS+* Disk in the **Documentation** folder. **QuickDA.Docs** is a Teach file. You can use EGOed, or the Teach application provided with System 6 to read it.

The control panel now interacts with Quick DA totally via the request handler instead of finding and directly changing values in Quick DA's data area. This is a *much* cleaner mechanism. For complete documentation on using the Quick DA request handler, see the **QuickDA.Tech** file on your *GS+* Disk.

Building DA Menus

To build the desk accessory menus, Quick DA sends the `qdaGetDAName` request, sticks the results in a list of `memRec` structures, calls the `SortMemRec` Miscellaneous Library call to sort the desk accessory names, and then puts the sorted names in the pop-up menus.

Whenever a desk accessory is chosen from the assignment list, the correct menu item is selected by walking the item names in the pop-up menu and selecting the item that has the same name as the assignment.

Opening A Control Panel

Even though opening a control panel under System 6 is easier than opening a NDA or CDA, there is a lot more "support" code required.

To actually open a control panel, a `cpOpenCDev` request is sent to the control panel NDA request handler. However, `cpOpenCDev` needs the pathname of the control panel to open. So, Quick DA must maintain a list of control panel names (for the assignment list) and pathnames (to send with `cpOpenCDev`). However, since all the control panels are in the ***:System:CDevs** directory, Quick DA can simply maintain a list of filenames and append the control panel directory prefix when needed. (Yeah, I know, control panels don't *have* to go in the ***:System:CDevs** folder, but I couldn't think of a good way to make a list of all the control panels you could open without making that assumption. If anyone out there can think of a way, let me know.)

Quick Exit

A lot of other little things have changed inside the actual control panel code, but to describe each one would be ridiculous. If you want to see how Quick DA works, take a peek at the source code! That's what the comments are in there for!

I hope you like Quick DA and find it as useful as we have. If you have any questions, or suggestions, don't hesitate to let us know about them. *GS+*

Miscellaneous Library

By Josef W. Wankerl

[Editor's Note: The Miscellaneous Library is not a stand-alone program! It is a programming tool that we think advanced readers of *GS+* Magazine will find very useful. It is intended for those doing advanced IIGS programming.]

The Miscellaneous Library (MiscLib) is a collection of various routines I have found myself using over and over. They can be used from any language that supports linking to standard libraries, such as ORCA/C and ORCA/Pascal.

Currently, MiscLib is comprised of four different function groups: About, List, Message, and Miscellaneous. The "About" group deals with displaying an About window similar to the one in Finder 6.0. The "List" group deals with managing list memRec structures. The "Message" group deals with accessing open/print pathname messages in a convenient manner. The "Miscellaneous" group deals with routines that do not fit in any of the above categories.

The following descriptions will give you a brief overview of the routines available in MiscLib. All of the MiscLib routines follow the parameter passing protocols defined for ORCA high-level languages: input parameters are pushed on the stack, and results are returned in the accumulator and X register. For detailed assembly language stack diagrams on how to make the calls, and for a short description of the parameters, see the figures in the **MiscLib.Docs** file. (This file is located in the **GSP.V4.N1.SEA** self-extracting archive on your *GS+* Disk.) For "real-world" examples of how to make calls to the MiscLib, check out the code for Autopilot, EGOed, and just about all of the other programs on your *GS+* Disk.

About

I view the Finder as the be-all, end-all example of a desktop program. If I have a program design decision to make, I look to the Finder to see how it should be done. One of the most difficult things for me to design in my programs is the About dialog. The `AlertWindow` call is simple, but lacks character. A custom window is nifty, but thinking up original About windows for every single program taxes my creativity. When I saw the new About the Finder window for Finder 6.0, I instantly fell in love with it, and wanted it in my programs as well. So, with a little bit of work, I managed to create a generic interface to a Finder-like About window. There are four routines for maintaining this window:

`InitAbout`: Sets up the environment for the About window.

`UnInitAbout`: Cleans up the data associated with the About window.

`DrawAbout`: Draws the contents of the About window.

`MemoryRedraw`: Updates the About window's free memory display.

List

I've always been perplexed as to why the List Manager does not include routines to add and subtract members from a list. (The List Manager requires the application to manage its own memRec structures.) Since I use the List Manager fairly frequently, I found myself writing the same code over and over again. I finally decided to put all this code in a generic form. Using these routines is fairly easy, but there is one major restriction: your list of memRec structures must be maintained by handle. If you want to use pointer memRec structures, you cannot use the routines in MiscLib. Note that this restriction only applies to the memRec list structure. Your `memPtr` field can be a pointer if you wish. The MiscLib List calls are:

`AddMemRec`: Adds a memRec to a list of memRecs.

`FindMemRecPtr`: Returns the pointer to a memRec in a list of memRecs.

`GetMemRecSize`: Returns the number of memRecs in a list of memRecs.

`NextMemRec`: Returns the number of the next selected memRec in a list of memRecs.

`RemoveMemRec`: Removes a memRec from a list of memRecs.

`ResetMemRec`: Deselects the next selected memRec in a list of memRecs.

`SelectMemRec`: Selects a memRec in a list of memRecs (deselecting any others that are selected).

`AddSelectMemRec`: Selects a memRec in a list of memRecs (leaving previous selections alone).

`SortMemRec`: Sorts a list of memRecs.

`NoCaseCompare`: Compares two memRecs (case is ignored).

`StandardCompare`: Compares two memRecs (case is not ignored).

`FindRealPtr`: Returns a pointer to the memRec's pascal name string when given a `memRec`.

Message

Message center message types 1 and 11 are reserved for passing file information to applications, so that the applications can automatically open or print files. The information in these messages can be hard to get to due to the fact that these messages are of variable length. MiscLib contains three routines that can help make retrieving information from these messages much easier. They are:

`GetOpenPrintFlag`: Tells you if the files should be opened or printed.

`GetOpenPrintNumber`: Returns the number of files in message 1 and 11.

`GetOpenPrintInfo`: This routine fills a new-style Standard File reply record with file information from message types 1 and 11.

Miscellaneous

The remaining routines don't fit into any of the above categories, so they fall into the "Miscellaneous" category:

`PreferencePath`: Builds a pathname to a preference data file for desk accessories.

`ConvertQuotes`: This routine is used to convert straight quotes in bodies of text into curly quotes (this routine was formerly in my library of routines for writing GraphicWriter III translators, GWLib [*GS+* V2.N3]).

`ClickCount`: Counts clicks in a `DoModalWindow` event loop.

`ListClickCount`: Counts clicks in a list control during a `DoModalWindow` event loop.

`SplitPathname`: This routine splits a pathname into a filename and a prefix.

If you have any questions about the Miscellaneous Library, send them in! I especially want to hear any suggestions you might have for additions to the Miscellaneous Library. Putting all of these routines in one place has already made my IIGS programming easier—I hope it does the same for you. *GS+*

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EGOed v1.7.1

By Steven W. Disbrow

Welcome to the latest version of our favorite ongoing New Desk Accessory, EGOed! This time out, we've got a new preferences system (complete with a couple of new preferences), a small enhancement to the Find and Replace options, and a few other goodies. (Note, new readers should refer to "What Is EGOed?" below and "How to Use your *GS+* Disk" elsewhere in this issue for information on installing and using EGOed. Readers interested in the inner workings of this issue's EGOed update should check out the file **EGOed.1.7.1Tech**, which is on this issue's *GS+* Disk.)

What's Yer Pleasure?

The new EGOed preferences system is similar to the old system, except that instead of only two types of preferences ("General" and "While In Finder"), there are now four different types of preferences: General, Load/Save, New Document, and Finder. General preferences are just that—things that affect the general operation of EGOed. Load/Save preferences affect the loading and saving of files. New Document preferences affect any new EGOed documents that you create using the New Window menu item. Finder preferences are preferences that only affect EGOed when it is used from inside Finder v6.0 or later.

After selecting the Preferences item from the EGOed Edit menu, you will be presented with the new Preferences dialog. At the top of the dialog is a pop-up menu that allows you to select the set of preferences you want to work with. Once you have a set of preferences selected, simply use the mouse to set those preferences the way you want them.

For complete information on *all* of the preferences in EGOed, you need to read the **EGOed.Docs** file that is on your *GS+* Disk (in the **Documentation** folder). However, for those of you that are already familiar with EGOed, here's an executive summary of where the old preferences are now, with detailed explanations of any preferences that are new or changed.

What Is EGOed?

EGOed is a New Desk Accessory (NDA) text editor. When you install EGOed on your startup disk, you can use it to edit and print ASCII text, Teach, AppleWorks Classic and AppleWorks GS word processor files from inside any desktop program that properly supports NDAs. To use EGOed v1.7.1, you *must* install it on a IIGS System Software v6.0 (or later) startup disk with at least 65K of free space. For more information on installing and using EGOed, see "How to Use your *GS+* Disk."

General Preferences

There is only one new General preference: Print With Wide Left Margin. When this preference is checked, EGOed will add a wide left margin to any document that you print with EGOed. This allows printouts to be easily three-hole punched and placed in a binder.

The other General preferences are: "Automatic Word Wrap," "Smart Cut/Paste," and "Zoomed On Open." They are all explained in detail in the **EGOed.Docs** file.

Load/Save Preferences

None of the Load/Save preferences are new, but they do all have new names. The old, and rather cryptic, "Preserve Paths" preference has been renamed "Remember Open & Save Folders." Also, the old "Warnings" preference has been renamed "Warn Me About Losing Styles." Apart from the new names, these preferences are exactly the same as they were before (refer to the **EGOed.Docs** file for detailed explanations of these preferences).

New Document Preferences

There is only one new preference here: the default file type pop-up menu. Using this menu, you can tell EGOed what file type you want assigned to any new EGOed documents that you create using the New Window menu item. There are four choices for a default file type: AppleWorks (Classic, not GS), APW source code, ASCII text, or Teach.

There is only one other New Document preference: "Default Font." This preference is explained in detail in the **EGOed.Docs** file.

Finder Preferences

There is only one Finder preference: "Applications Get Files First." It isn't new, but it is explained in detail in the **EGOed.Docs** file.

When you are finished setting your preferences the way you want them, simply click on the Done button or press the return key. When you close the last EGOed window on your screen, all of your new preference settings will be saved to disk.

Speaking Of Saving . . .

For me, one of the most annoying features of EGOed has been that a new version comes out every two months. This meant that I had to reset all of my preferences (not to mention my page setup) every time I finished a new version. Well, this time around, I've solved this little problem by moving all preferences into their own file: **EGOed.Prefs**. After you install and open EGOed v1.7.1 for the first time, it will create this preferences file and fill it with a set of default preferences. You can then set up your preferences the way you want them (don't forget to reset your Page Setup too!) and they will be saved in the **EGOed.Prefs** file when you close *all* of your EGOed windows. From then on, whenever you use EGOed, your preferences will be loaded from the **EGOed.Prefs** file.

This means that when you install the next version of EGOed, your preferences will be left alone and you won't have to spend any time resetting them! Of course, there aren't that many different preferences in EGOed right now, so it really hasn't been *that* much of a hassle to reset them all. However, starting with the next version of EGOed, I'm going to be adding quite a few new preferences, so this should end up being quite a time saver.

Other Changes

In the minor changes department, this version of EGOed adds keystroke equivalents to two menu items that I use all the time: Curly Quotes (Command-[) and Straight Quotes (Command-'). This should make life a lot easier (well, at least *my* life).

Next, if you have tried to open a file in the Finder by double-clicking on it, only to have EGOed report that it could not open the file (perhaps because the file was already open in another EGOed window), you probably know that the next thing that happens is that the Finder then tries to find someone *else* to open the file. This usually means an unscheduled trip to either AppleWorks GS or the Teach application. EGOed v1.7.1 fixes this by telling you that it can't open a particular file and asking you if you want to let another application try to open the file. If you say "Yes," things proceed as they always have. If you say "No," (which is the default answer) EGOed will tell the Finder not to try to opening the file again.

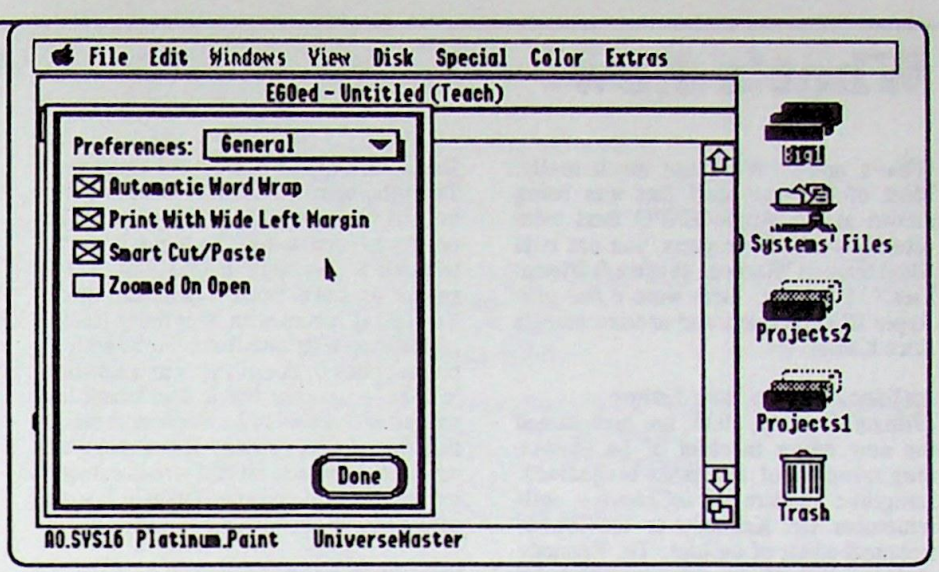
The last change in this version of EGOed is that you can now press Command-

Period (Command-.) to halt a Find or Replace operation. Simply hold down the Command and period keys until EGOed recognizes the keypresses and stops the Find or Replace operation. (Actually, the operation *should* stop immediately, but there are a few obscure cases where EGOed won't recognize the keypress immediately, so it's a good idea to make a habit of holding down both keys when you want to cancel a Find or Replace.)

Thanks!

I need to thank some people before I finish up this article. First, Joe Wankerl. I'm now using two of Joe's Miscellaneous Library routines in EGOed, so I thought he deserved some credit. Thanks for the help, Joe!

Second, I gotta say thanks to Barry Bernstein and David J. Galbraith for identifying a couple of rather insidious bugs in EGOed v1.7, and, more importantly, sending in their problem forms! With these problem forms in hand, I was able to find and fix both problems in less than 30 minutes. Thanks again, guys!



So, the moral is, if you have a problem with EGOed, *please* fill out and send in a problem form. See you next time!

GS+

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What's New

Compiled by Steven W. Disbrow

What's new? Well, not much really. Most of the new stuff that was being shown at the Apple EXPO East were actually works in progress, you can read about them in "Rumors, Wishes & Blatant Lies." However, there were a *few* new Apple IIGS products and announcements since KansasFest . . .

inCider/A+ Gets New Editor

William Kennedy, Ph.D., has been named the new editor in chief of *inCider/A+* magazine (and *PCGames* magazine). Longtime readers of *inCider/A+* will remember Dr. Kennedy as the former technical editor of *inCider*. Dr. Kennedy replaces Dan Muse, who is reportedly going to work for *Byte* magazine.

For more information, pick up the current issue of *inCider/A+* or write to:
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Peteborough, NH 03458

Turn On, Burn In, Far Out

Whenever you turn on your monitor, and leave a single image (like the Finder desktop) on it for an extended period of time, you run the risk of "burning in" that image onto your screen. To combat this problem, a special class of products, called "screen savers," were created. A screen saver "saves" your screen by repeatedly playing an animation on screen. This ever-changing image keeps the screen from burning in and making you miserable.

One of the first screen savers for the IIGS was a neat little shareware product called "Twilight." While it was incredibly neat, it had a *lot* of problems, and other, commercial, screen savers appeared and pretty much took over the market that Twilight helped to create.

During that time however, the creators of Twilight were constantly working on making their product even better. The results of that work, Twilight II, were released at the Apple EXPO East, and it seems to have been worth the wait. Twilight II comes with over thirty far-out animations to choose from, works with 8-bit programs (it doesn't play an animation in 8-bit programs, but it *does* blank the screen) and seems to be *much* more stable than the original version. If you are in the market for a screen saver, I would strongly recommend that you give Twilight II some consideration. For more info, contact

Digital Creations: Twilight II
Attn.: Jim Maricondo
55 Skyview Dr.
Trumbull, CT 06611-4033
(203) 377-1121
America Online: "AFC DYAJim"

Pace Makers

OK, these folks aren't exactly new, but you still might not be familiar with them. They are PaceMark Technologies Inc. and they are the same folks that make the Q-RAM 4MB IIGS RAM card that Quality Computers sells. In fact, they sell the 1MB version for about $20 less than Quality does.

Not only that, but they have a whole line of IIGS/IIe products that you should take a look at. Especially if you are an educator that needs to share a single printer among a group of Apple II's. To request a catalog, contact:

PaceMark Technologies, Inc.
1824 North Besly Court
Chicago, IL 60622
(312) 384-5600
(312) 384-5609 FAX

Sequential Thinking

Boy did I goof! The hottest product announced at KansasFest, and I forgot to put it in the KansasFest issue. What was it you ask? It was (and still is) this neat little 4MB RAM card (the RAM GS) from Sequential Systems.

What's so hot about a 4MB RAM card? The price. At the 'Fest, this little beauty was selling for right at $150, *with* 4MB of RAM! The board has proved to be so popular, that everyone and their brother seems to be selling them. Best of all, the pricing is *really* cut-throat and, if you shop carefully, you might be able to find one for under $130!

Besides the price, (which I still have trouble believing), another reason to consider this card is that it is completely compatible with the C. V. Technologies RAM card—which means that you can plug the Sequential Systems card into the C. V. Technologies card, and go all the way up to 8MB of RAM!

So, how do you contact Sequential Systems to get yours? Well, you don't. You take this issue of *GS+* Magazine, and the latest *inCider/A+*, and you go through the ads until you find the best price!

Send 'em In!

If you have a new IIGS-specific product that you want to get the word out about, send us your press-release and I'll let our readers know about it here. You can FAX your press releases to us at (615) 843-3986 or send them to:

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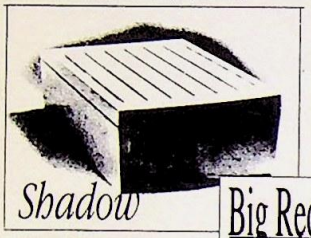

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