



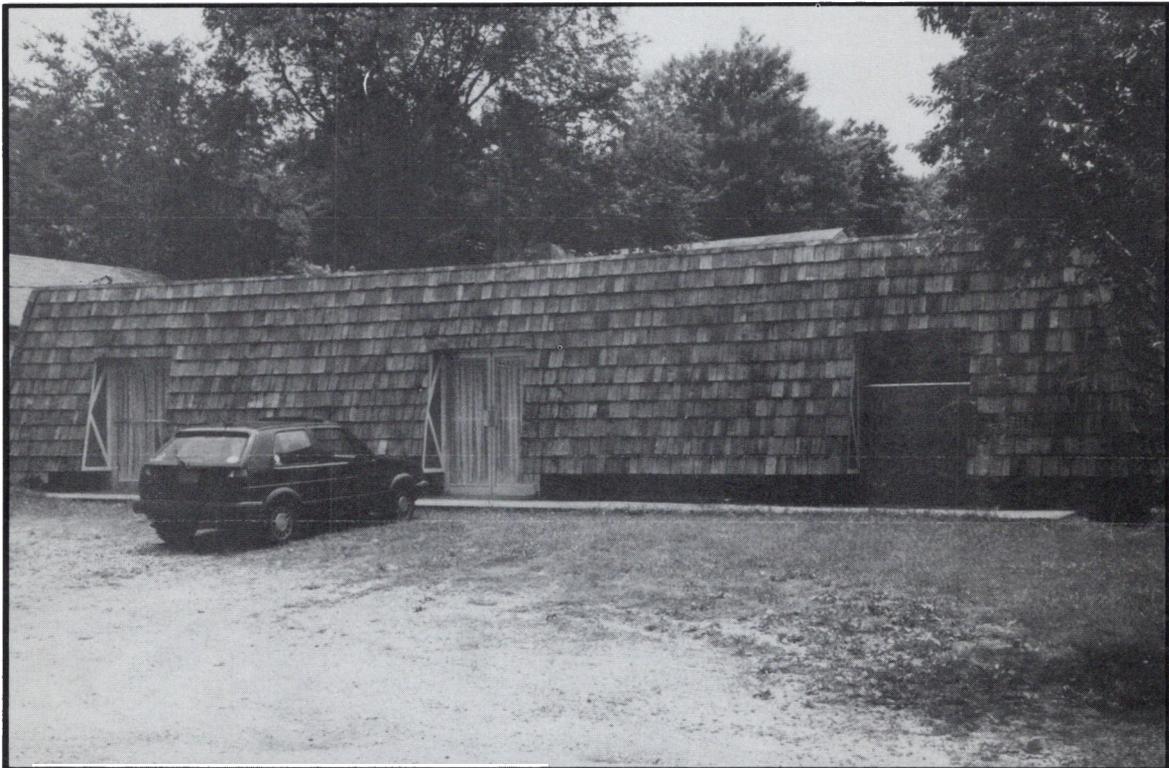
July
August
1994

Volume 5
Number 6

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

WE'VE MOVED!

Our New Offices are Shown Below, and Our New Phone Number is 615-332-2087



Just Because We've Moved, it Doesn't Mean This Issue is Empty!

FEATURES

Programming the IIGS: GS/OS and the Toolbox
Building Your Own Hard Drive
Working With Standard File

PROGRAMS

Clip On • Sun Dial • What To Do

AND MUCH MORE!

Writer's Block

By Steven W. Disbrow

Well, I hope that I'm wrong, but I think that by the time everyone finishes reading this editorial, I'll have lost a few subscribers. But, this stuff needs to be said and it needs to be said now.

Staying Alive

Today, I got a call from a subscriber that wanted to buy all of our back issue disks. "No problem!" I said. At this point, the subscriber asked "So, what kind of discount do I get for that?" "Sorry," I said, "but we don't have any quantity discounts on back issues." As you might expect, the response was, "Why not?" This is a fair question.

The only answer I had to give was "So we can make a profit and stay in business." Luckily, this answer seemed to be good enough and the conversation proceeded pleasantly from there. This was however, one of the few people that wasn't upset with this answer.

You see, many people that ask this question actually get angry and end up ordering absolutely nothing. For me, this is more than a little depressing. So, I end up asking myself, "Doesn't this person realize that we have to make a *profit* to stay in business?" Maybe I'm crazy, but it strikes me as odd that the same folks that call and say "Please don't disappear!" will tell me (in the same conversation) that, "Your <back issue/subscription renewal/user group> pricing stinks." All I can say is, our back issues used to be cheaper, our subscription renewals used to be cheaper, and we were losing money on them. So, in order to stay in business, we raised the prices (a mere 50¢ each in the case of the back issues). Of course, we've never had a special deal for user group subscriptions, so I guess that *does* stink a little.

So, why am I dumping all of this on you? Because this situation seems to point out a much, much larger problem in the Apple IIGS community. Namely . . .

Everybody Wants a Free Lunch

I first began to get an idea of the scope of this problem after talking to several of our former advertisers. According to quite a few of them, they never made *any* money advertising with us. Stop and think about that. Someone runs a 1/3 page ad in *GS+* Magazine for \$60. It goes out to a couple of *thousand* IIGS owners all over the planet, and the company that ran the ad doesn't make even \$61 dollars in sales! Not even \$1 of profit! I've had this

complaint from at least half-a-dozen former advertisers, and as I understand it, several others are also unhappy.

Of course, this isn't always the case. Lots of our advertisers are very happy with the returns that they get on their ads. It could just be that the companies that weren't getting a good return on their ads were trying to sell products that nobody wanted. Actually, I think that *does* have a bit to do with it, but I think that there is something else going on here too. The bottom line? I think that there are a lot of IIGS owners out there that honestly feel that things should just be *given* to them.

And why not? After all, Apple IIGS owners have been screwed at least a dozen times by various companies and persons in the Apple IIGS marketplace. After the kind of treatment we've had to endure, it's only natural to feel like the world owes you something. Well, as my father once said to me, "It's just too bad that life don't work that way, ain't it?"

You see, in life, nobody *gives* you anything of real value. If you want something, you have to work for it and earn it. (And then, of course, you die. But, that's another editorial.) Similarly, if you want the IIGS to stick around, you have to buy stuff from the people that are doing their best to keep the IIGS alive.

Now, I'm not suggesting that everyone buy everything that comes out for the IIGS. If a product is junk, I'm not going to insult everyone's intelligence by saying, "Buy this! Sure it's crap, but it's for the good of the IIGS!" That would be stupid. Bad products, and the companies that make them, deserve to disappear as quickly as possible. All I'm asking is that IIGS owners take the time to learn all they can about the products that are out there, and, if they want them, buy them!

Unfortunately, what's happening now is that good products, good companies, and good *people* are disappearing from the IIGS landscape. If you don't believe me, consider the fact that Big Red Computer Club has just announced that they will be closing their doors at the end of this year. Big Red is a good company, with a good selection of products, but they just don't do enough business to survive.

Along similar lines, ECON Technologies, while not going completely out of business, is getting out of the IIGS market. Why? Because their IIGS

business barely supports them now. So, they are selling off their IIGS products (We've taken over AutoArk and Addressed For Success. See "What's New?" elsewhere in this issue.), and are switching their focus to IBM and Macintosh contract programming.

So, who's next? I don't know. One of the truly sad things about the IIGS market is that people seem to be afraid to talk about the fact that their businesses are hurting. Why? Because the moment they do, the "going out of business" rumors start flying, and people that were thinking of buying something from them, don't. And God help the Apple II company (like ECON) that tries to branch out into other markets! If I see one more hard-working Apple IIGS vendor that's spent the last few years of his or her life supporting the IIGS called a "traitor" just for trying to make a living, I think I'll scream.

Don't Get Me Wrong

At this point, you may be thinking, "This jerk sure has some nerve! Telling me that I don't spend enough money on my IIGS! I pay him to read his stupid magazine don't I?" Yes, you do. In fact, *lots* of you do. It's the people that are reading this over your shoulder that need to be "enlightened." (Actually, if this were just about *GS+* Magazine, I wouldn't be writing this editorial. Our business has been *great* the last few months! In fact, it's been so great, we are moving into a new office. For more on this, see "What's New?" elsewhere in this issue.)

I'm not writing this to try and get you to force your friends to subscribe. (Not that I would complain!) I'm writing this because a lot of people in this community, many of whom I consider to be my friends, are on the verge of leaving it for greener pastures. I don't think any of us want that to happen, but it will, unless the entire Apple IIGS community realizes that its "gimme something for nothing" attitude will lead to nothing but an early death for the Apple IIGS.

"Bob, Get Me a Sedative."

So, there you go. If you want to cancel your subscription, details on our cancellation policy can be found in this issue's "Letters" column. But, if you wanna stick with us and try to help the IIGS market get over this slump, I'd suggest you start by reading the reviews in this issue, and by telling that person behind you to get their own copy.

Diz

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GS+

Magazine

July-August 1994
Volume 5, Number 6

Publisher, Editor

**STEVEN W. "YOU CAN'T PACK THAT CABLE
UNLESS IT 'S IN THE PROPER BOX" DISBROW**

Technical Editor

**JOSEF W. "HARDEE'S FOR LUNCH, AGAIN?"
WANKERL**

Production/Marketing Coordinator

**MICHELLE B. "I NEED TO FIT WHAT INTO
MY TRUCK?" RIBARIC**

Operations Director

**ROBERT A. "MY CAR WAS FINE WITH THE
WEIGHT UNTIL STEVE GOT IN" RIBARIC**

On The Cover

Yes, yes, it's really true, we're out of Steve's basement and out into the sunlight. Speaking of which, how come Joe gets the only office with a window?

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AppleWorks GS - Cover Layouts

Dream Grafix & Platinum Paint^{LV} - Screen Shots

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We use a Macintosh LC III as a file server because we have to.

Letters

Dear GS+:

... Do you know of a diagnostic program I can use to test my 3.5-inch 800K Applied Engineering disk drive? I have [a program] to calibrate my 5.25-inch drives but can't seem to find anything to check the 3.5-inch drive....

Roberta McDonald
Elizabeth, NJ

Sorry Roberta, but we don't know of any way to calibrate or otherwise adjust a 3.5-inch drive, other than handing it over to a technician for repair. You might want to contact AllTech Electronics (619-724-2404) for information about their floppy disk repair service. I believe they also offer an exchange program, but I don't know if it applies to non-Apple equipment.

Diz

Dear GS+:

I have a question about EGOed. Does it always save a ruler with every document even if the ruler is never displayed?

My version (1.9) is set to open new documents with everything checked but "Show Ruler." All the other preferences in all the other options are not checked. Almost all the time when I ask for a document, ... and then ask EGOed to show me a ruler, it hangs. Any ideas why?....

Rod O'Brien
Sherman Oaks, CA

Yes, EGOed does save ruler information with every Teach document you save, regardless of whether or not you made the ruler visible while working with the document. (This ruler information is required for Teach files, so this is something EGOed has to save.)

As for the problem with EGOed crashing, I have no idea what could be wrong. If you could fill out and send in a problem form (you'll find the problem form on the disk that EGOed came on), that will give me some concrete information to work with. However, just as a guess, I'd say that the default ruler that is stored in your copy of EGOed has become corrupted. To fix it, load in a Teach file with a good ruler (like the EGOed.Docs file that is on your GS+ Disk) and then pick "Set Default Ruler" from the EGOed Edit menu. If that doesn't fix the problem, you might consider upgrading

to version 2.0. (There were some problems with the ruler in 1.9 that only appeared when using System Software v6.0.1. Version 2.0 fixes these problems, and adds a lot of new features too.)

Diz

GS+:

... You asked about accelerator cards on the Feedback form. I am getting ready to buy one ... do you have any advice on what to buy?...

Lyle Hill
Bozeman, MT

Well, since Applied Engineering is now out of business, I guess I would recommend that you not buy a TransWarp GS. (However, if you can find one cheap, and you can try it out before you buy it, you might want to get one anyway.) So, that just leaves the Zip GS card. Zip Technology is still around (although I think they are now using a different name), so you would be able to get the board repaired if there was a problem. However, you should probably buy one of the slower models (8MHz tops), because lots of folks have reported problems with the faster units. (We have a 9MHz unit that works fine, and one of our reviewers has a 10MHz unit that he loves, but we still get lots of calls from folks that are having problems with these faster units.) Don't worry about the slower speed though—one of the nice things about the Zip board is that, if it isn't fast enough for you, you can always upgrade it later.

Reading over the Feedback form you sent with your letter, I see that you have an Apple SCSI card in your system. Another way you can speed up your IIGS (without buying an accelerator) is to replace your Apple High-Speed SCSI card with a RamFAST card. The difference is very noticeable, and the extra speed is well worth it.

Diz

Dear GS+:

Because of your very informative reviews about CD-ROMs for the Apple IIGS, I have decided to buy an Apple CD300.... As I'm waiting for the drive, I want to get more information about the available CDs, e.g. directly from Sequential Systems or DigiSoft Innovations. Do you have any fax numbers for these guys [that your overseas subscribers could use?]

... I'm using some very good shareware programs on my IIGS. Each of the programmer's tells his users to send him the shareware fee, and the programs I use are surely worth it. So, I paid the fees and wrote the authors asking them to send me some information about the latest versions of their programs. Unfortunately, the result was very disappointing. Only Richard Bennett and Pangea Software (after three letters) responded....

Some of the authors have moved (Why don't they let their users know this? Perhaps by sending a press release to GS+ Magazine.), while others, perhaps, just don't support the IIGS anymore. I think you can believe me when I say that this is very frustrating!

So, my point is: Please make an appeal in GS+ Magazine to all those guys programming shareware. Let them know that support shouldn't end when they receive the shareware fee. Customers are more satisfied when they get an acknowledgement of their fees—and satisfied customers like to pay fees.

Roland Götz
Germany

Thanks for the letter Roland. First, lets get those fax numbers out of the way. DigiSoft does not, to my knowledge, have a fax machine, but you can reach them on the InterNet by sending mail to "DigiSoft@aol.com". You can send a fax to Sequential Systems at 303-665-0933.

Moving to the issue of shareware, you make a very good point: Just because shareware is inexpensive, it doesn't mean that shareware authors can ignore their paying customers. However, in defense of shareware authors, this is just a hobby for most of them, and many simply aren't equipped to provide the type of service that folks seem to expect from them. Of course, there are a few things that everyone out there can do to help.

1) *Pay your shareware fee. If you don't pay the fee, you don't have any right to expect any sort of support from a shareware author.*

2) *When you write to a shareware author, remember that he or she has a life beyond the program that you are using. They simply may not have the time to sit down and write you a reply. One*

of the simplest ways to make this easier on an author is to always include a postage-paid, self addressed return envelope with your letter. (If you are just asking "yes or no" questions, why not make little check boxes on your letter that the author can just check off the answers to and then put back in the mail to you. I've gotten a few letters like this myself, and I love them! Of course, they don't fill up the "Letters" page very well.)

3) If the shareware author lists an e-mail address, use it instead of paper mail. Believe me, it's a lot faster and easier to respond to a piece of e-mail than it is to sit down and write a letter!

As for shareware authors moving and not telling anyone about it . . . I certainly know how tough moving can be. I also know how expensive it can be to do a mailing to more than a few dozen people. And, since these are individuals, they are probably moving more than just filing cabinets and computers, they could very well be moving everything they own! So, I really wouldn't be too hard on them for forgetting to tell everyone in the world.

However, I will say to all the shareware authors out there: If you move, let us know! We'd be happy to put your change of address information in our "What's New?" column!

Diz

Dear Steven:

Enclosed is my renewal. I try to publicize your magazine through the User Group I belong to. (As president and newsletter editor, I have the opportunity!) I've enclosed a copy of our newsletter for you.

One of my current concerns is the struggle facing vendors in the Apple II/IIGS market. Every developer or mail-order retailer I have spoken with reports slow sales and low or no profits. (Quality Computers may be an exception—for now—but even they aren't exempt, just the currently most viable.) Reaching Apple II/IIGS owners is not easy for vendors and developers. Most have very limited advertising budgets and few good advertising channels.

An idea I'm toying with is to offer advertising space in our [user group] newsletter in exchange for a software donation [to our user group]. Donating software is using money already spent (the software is already in inventory); it also adds to the advertising impact, if the software is reviewed or demonstrated. The software would also help the club attract and retain members. For

vendors/developers who aren't willing to make a donation, advertising at low cost is also being considered. The ads would be full page, smaller if requested.

In order for this idea to have any real impact, many Apple II User Groups would have to make similar offers. The Apple II/IIGS market is a closed market; finding ways to cooperate is in the interests of all who are involved with Apples. If you think the idea has merit, you might help by publicizing it. I am interested in your opinion, too. Perhaps you could e-mail me on America Online. I can be reached there as "EdmundL".

Edmund Lundberg
Cambridge, MA
InterNet: EdmundL@aol.com

Well, Edmund, I think you have a good idea here, but I don't think that it will be enough to turn the situation around completely. For that to happen, Apple II owners are going to have to realize that, for these companies to stick around, they are going to actually have to spend some money on some of these products. If not, the market is going to continue to shrink until we just have one player left (three guesses as to who that will be) and then things will get really bad. (I don't have anything against this particular company. It's just that, as a rule, monopolies stink.)

And if anyone out there doesn't believe that the market is shrinking, just take a look at this issue's "Writer's Block" and "Rumors, Wishes & Blatant Lies" columns for news on all of the companies that are calling it quits this time around!

Still, I think you've got a pretty good idea here (after all, folks can't buy stuff they don't know about), and I hope that other user groups and vendors will contact you to see about getting this idea off the ground.

Diz

Hi Guys,

First off, I want to tell you how great your magazine is. Keep up the good work!

I've been looking for a utility that can convert Word for Windows files to AppleWorks GS and back again. I basically need it to remember font, font size, bold, italics, and underline. It doesn't have to remember weird fonts, just basic ones like Times, Helvetica, etc. Since we use Word for Windows as a standard at work, I want to be able to take files home. I can convert the files, but all

the basic formatting is lost so it makes it kind of annoying to replace all of that every time I transfer a file

Scott Everts
Chino Hills, CA
severts@interplay.com

Well Scott, if you aren't married to AppleWorks GS, we've already done something like that in GS+ V5.N3—EGOed v2.0. EGOed v2.0 can read and write RTF files, (Word can also read and write RTF files) so you can easily move those files from Word to EGOed and back again. Unfortunately, EGOed can't save files in AppleWorks GS format (but it can read AWGS files), so you can't go from Word to AWGS (but you can go, via EGOed, from AWGS to Word).

Diz

Dear Sirs:

I have just received the first copy of GS+ and am not happy with it. I had hoped to receive a magazine similar to the former inCider/A+ but the GS+ misses that mark as far as I am concerned. I am a rank amateur and found nothing of interest to me in your magazine. Please cancel my subscription. Thank you.

Charles S. Pineo
Columbia, MD

Well Charles, on the one hand I'm sorry that you didn't like GS+ Magazine, but on the other hand, I'm glad that we aren't anything like A+inCider!

Anyway, the reason I ran your letter is because it's a good excuse for me to detail our never-before-published policy on cancelled GS+ Magazine subscriptions. So, here it is:

"If you cancel your subscription to GS+ Magazine, you will receive a full refund for any unmailed issues. If you paid by check or money order, we will send you a check for the balance of your subscription. If you paid by credit card, we will issue a credit to that same card for the balance of your subscription."

That's all there is to it. Of course, if you are cancelling your subscription because you are selling your IIGS (this is our number one reason for cancelled subscriptions—I think Charles was only our second or third cancellation due to a reader simply not liking the content of the magazine), why not consider transferring your GS+ Magazine subscription to the new owner? It will make the deal even better for the person buying your IIGS,

and I won't have to cry over my checkbook.

Diz

Diz,
... Hey, have you published a review of the RoadRunner internal drive "card" from Memory Plus Distributors? ... If not, I just purchased one of these beasts and would be willing to write up a review if you are interested

As long as I am writing . . . about your cover art It is getting tougher to convince my wife that I am receiving a valuable piece of literature when she sees some of your (shall we say) "off center" cover photos. Don't get me wrong, I can see where you are coming from on these photos, but lately I tend to agree with my wife when she says that the cover photos may be inappropriate for young kids (we have three) to see. Just a thought—please don't take this as a slam against GS+ Magazine. (I believe the cover with the "hostage," drills, saws, blood, etc., was the one that put you over the edge.)

Perhaps you may feel that according to your demographic data on subscribers you feel that you can go this far with the cover art. However, please remember that other eyes fall upon your publication and not everyone will interpret the humor behind the pictures as I do

Paul Schultz
Ann Arbor, MI
InterNet: schultp@aa.wl.com

First off, I'd love to run a review of the RoadRunner drives! So, send me a rough draft and we'll get working on it.

As for the covers . . . after thinking about it, all I can say is: You are right, some of the covers we have done probably couldn't be understood by a young child. However, GS+ Magazine is not (and has never been) intended for children. Also, just in case someone out there has yet to notice, our covers very rarely have anything to do with the contents of an issue. So we always try to make them as entertaining (or confusing) as possible. This has led us to some rather bizarre cover concepts that have had only the faintest relation to anything actually found in reality. (I suppose you could say that we only do our covers to keep the inside pages dry, and to confuse the guys at the post office.)

This isn't to say that I don't understand your concern, or that I am dismissing it out of hand. My wife and I are currently considering having children, and one of

the things I'm worried about is what that will mean for my private collection of, um, periodicals (wink, wink) and, educational videos (nudge, nudge). The only solutions I can think of are: 1) Burn it all (not a chance), 2) Donate it to my "socially challenged" male friends (not bloody likely either), or 3) Lock it all up and be ready to answer any questions my kids might have about it when they find it. I think I'm going to go with number three.

Finally, I think I have to agree with your wife: GS+ Magazine isn't valuable "literature," it's just a computer magazine with some good reviews, some decent articles, a little humor, and fewer than 1,000 errors an issue.

Diz

Hi Guys,
I was wondering why EGOed doesn't have a hot key built in like TypeSet, ShadowWrite, Scarabidae, etc. It sure would be nice to hit Command-X and get to my editor. Is there a utility that allows one to assign a hot key to a desk accessory?

Todd Legg
Edmonds, WA
ToddLegg@aol.com

Well, EGOed doesn't have a hot key because, frankly, Joe and I don't believe new desk accessories should have Command key equivalents. (WestCode made us put one in TypeSet.) Why? Because you never know when some new application will come along and claim your Command key for its own.

Your selection of Command-X is a perfect example of this potential conflict. Command-X should always be reserved exclusively for the Cut command and should never be commandeered by a desk accessory!

But, there is a utility, and a great one at that, that allows you to assign hot keys to new desk accessories, control panels and, believe it or not, classic desk accessories! It's called Quick DA . . . and guess who makes it?

The latest version of Quick DA is available in the GS+ V4.N1 back issue. See "Back Issue Information" elsewhere in this issue for complete details on how to get a copy.

Diz

Diz,
I am now an enthusiastic Newton

MessagePad 110 owner as well as a . . . IIGS owner I do not have a Mac and don't expect to have one any time soon. I have a Windows based '486 PC-compatible at work, but company policy does not allow me to load personal software on my work PC.

What I really want is to be able to download Newton freeware/shareware packages (and possibly OS upgrades) to my IIGS, unstuff the packages with GS-ShrinkIt, and then use a brand new GS+ published Newton-IIGS Connection Kit to download and remove PKG files from my MessagePad 110.

Since you are a strong proponent of both Newtons and IIGS's, I'm sure you have given much thought to writing and publishing such a utility. I would be very interested in seeing such a program, as I'm sure other IIGS owners with Newtons would be. This would also be an added reason for IIGS owners to consider purchasing a Newton, or at least eliminate one of the possible reasons for *not* buying one.

I understand that there are two shareware utilities like this that have been written for the Mac Surely such a utility could be written for the IIGS.

Brendan Bellina
Mishawaka, IN
BBellina@aol.com

Well Brendan, you are right when you say that such a utility can be written for the IIGS, and you are also correct in assuming that we've given such a program a lot of thought. At this point however, we just don't have any idea how many IIGS owners out there have Newtons, so we don't know if it would be a worthwhile project.

So, to all you IIGS owners out there that have Newtons, let us know if you want to see a simple Newton package downloader for your IIGS! We would really love to do it!

Diz

Diz:
I read with interest your response to Phil Bivens letter [in GS+ V5.N5] regarding installation of the LaserWriter to get PostScript files, however you did not answer Mr. Bivens' question. Is there a way to install the LaserWriter without installing the entire AppleTalk system? I checked the LaserWriter Script on the install disk and it installs the entire AppleTalk system. I really don't want the AppleTalk system on my computer. If it

isn't possible I understand, but then is there a way to bypass [this]?

Judson Day
Groton, CT
Juddie@aol.com

Hmmm, well, the process I described is 100% guaranteed to work, because it uses the Installer to make sure you have all of the needed files. But, I can understand not wanting to have all of that AppleTalk stuff cluttering up your system. So, I asked Joe for his advice on this, and we came up with the following process that seems to work.

1) If you have already installed the LaserWriter update, run the Installer again and remove it. This will get rid of all those pesky AppleTalk-related files.

2) Using the Installer, install one of the "Printer" updates. Since most folks have an ImageWriter, go ahead and install the "Printer: ImageWriter" update.

3) Reboot your computer and go to the Finder.

4) On the :SystemTools2: disk, find the file LaserWriter (it's in the System:Drivers folder on the disk), and copy it into the System:Drivers folder of your boot disk.

5) When this file is finished copying, open the Control Panels new desk accessory, and select the DC Printer control panel.

6) "LaserWriter" should be one of the choices in the "Printer Type" list at the bottom of the DC Printer control panel. Select it, and then select a port.

7) Now, open the file you want to save in PostScript format, and check the page setup to make sure it is the way you want it.

8) Select print from the File menu.

9) When the Print dialog appears, press and hold down the Command and "F" keys at the same time.

10) While still holding down Command-F, click the mouse (don't press the return key) on the "OK" button. You should then see a dialog that says "Creating PostScript file."

11) The PostScript file will be saved in the *:System:Drivers folder. It will have a name like "PostScript.GSxx" where xx is a number between 0 and 99. You can download this file to a PostScript printer using a utility like SendPS on the Mac or our own LASERbeam (from GS+ V5.N4) on the IIGS.

(If steps seven through eleven sound familiar, it's because they were also a part of my reply to Phil Bivens. I've included them here for completeness.)

Diz

Diz:

Are all of your letters real, or do you make some up to use all of the allotted space? That would be really sleazy.

Chris Shutters
San Antonio, TX

If you have a question, comment, or criticism about GS+ Magazine, we want to hear it! Due to space limitations, letters may have to be edited and we can not answer every letter here in GS+ Magazine.

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Errata

If you are using CD-ROaM (from GS+ V5.N2) to try and copy files off of an ISO 9660 CD-ROM, you may have run into a problem copying files or folders that have the characters "-", or "&" in their names. Unfortunately, like spaces, these do not appear to be legal characters for file names on ISO 9660 disks, at least not in Apple's implementation of ISO 9660. So, at this point, there isn't much that CD-ROaM can do about it. The only way to fix this problem is to convince someone at Apple to update the High Sierra FST, or for us to write a low-level ISO 9660 disk reader and put it into CD-ROaM.

If you are trying to use Playful (from GS+ V5.N4) to try and play rSoundSamples and nothing happens when you pick "Play rSoundSamples" from the Finder Extras menu, it is probably because you do not have the Sound control panel properly installed. (Playful does not actually play sounds itself, it merely passes them to the Sound control panel and it plays them.) To see if the Sound control panel is installed properly, pull down the Apple menu and select "Control Panels". When the Control Panels window appears, scroll down through the available control panels until you see the Sound control panel. If you *do not* see the Sound control panel, you have found the problem. Restart your computer using the System Software v6.0.1 :Install disk, click the "Customize" button, and install the Sound control panel on your boot disk. Playful should then work properly.

There is a bug in LASERbeam (all versions, but last seen in GS+ V5.N4) that prevents it from working correctly with a directly connected PostScript printer (it still works fine when connected via AppleTalk). On a LaserWriter Plus, only the first page of a document will print, and LASERbeam will appear to hang up. On later model LaserWriters, all pages will print, but LASERbeam will still appear to hang up after printing. In both cases, you can simply press Command-period or click on the Stop button to regain control of your computer. However, the busy light on the printer will continue to flash. However, you can still send another print job to the printer if you wish. Until we can publish an update, the best way to get around this problem is to only use LASERbeam over an AppleTalk connection. If you need help setting up this connection for use with LASERbeam, give us a call at 615-332-2087 and we will help you get it set up.

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Programming The IIGS - Part 3: GS/OS & The Toolbox

By Steven W. Disbrow

Welcome Back

In our last installment, we took a look at the different types of programs that you can write on the IIGS. This time around, we will be looking at two of the most important aspects of programming on the IIGS: GS/OS and the IIGS Toolbox.

GS/OS

Of all the different parts of the IIGS, GS/OS is probably the most misunderstood by IIGS users. A great many people have a lot of trouble differentiating between what GS/OS is and what GS/OS isn't. If you are going to program the IIGS, you *must* have a clear understanding of what GS/OS is, and what it can do for you. You must also have a clear understanding of what GS/OS is *not*, and what it can not do.

What GS/OS Is

"GS/OS" stands for "Apple IIGS disk Operating System." This means that GS/OS is responsible for managing all communications between the IIGS and any disk drives (including hard disks, floppy disks, CD-ROM drives, tape drives, etc.) attached to it. GS/OS is also capable of managing communications with just about any other type of device that you can plug into your IIGS. For example, GS/OS can treat any device attached to the serial port (like a modem perhaps) as just another device that it can read information from or write information to.

What GS/OS Is Not

Contrary to popular opinion, GS/OS is *not* any of the following things:

- A File System Translator. A File System Translator (FST) is a type of file that GS/OS uses to access disks formatted for use with a particular disk operating system. FSTs are a *part* of GS/OS, but they are not GS/OS itself.
- A device driver. A device driver is a type of file that GS/OS uses to control a particular device that is hooked to your IIGS. Like FSTs, device drivers are a *part* of GS/OS, and not GS/OS itself.
- The IIGS System Software. GS/OS and the IIGS System Software are separate entities that work together to give the IIGS it's current "look and feel." Actually, the System Software and GS/OS are fairly independent of each

other. You could, for example, write a completely different set of System Software and have it use GS/OS. And, the System Software could work with a completely different operating system. In fact, GS/OS and the System Software even have completely different version numbers. So, when you hear someone refer to "GS/OS v6.0.1", you can safely assume that they haven't a clue as to what they are talking about. (FYI, the current version of GS/OS is v4.2.)

Too Late!

If you have been putting off buying all of the books I listed in part one of this series, you may have made a big mistake. I recently spoke with the folks at Resource Central and was told that they are sold out of the Apple IIGS Toolbox Reference, Volume 3. This, combined with the fact that Addison-Wesley is also completely out, means that, if you don't already have one, you probably never will.

- The Desktop. The desktop that most IIGS applications run under has absolutely nothing to do with GS/OS. So, when you see a blurb for a "GS/OS-based application," you should know that all this really means is that the application uses GS/OS to manage its files. However, what was probably meant was that the application uses the IIGS desktop interface.

So, why have I pointed these four things out? Because, if you are going to program the IIGS, it helps to know what you are talking about when you discuss programming with other programmers. It makes it much easier to get your point across, and it cuts down drastically on the number of times you embarrass yourself.

What GS/OS Does For You

As I mentioned earlier, the main purpose of GS/OS is to allow you to work with the disks and devices that are connected to the IIGS. This is a lot of stuff for any one piece of software to do, but GS/OS

does it very well. Here's a brief list of some of the more important things GS/OS can do for you:

- Format disks
- Erase disks
- Read data from a disk, file or device
- Write data to a disk, file or device
- Get information on a disk, file or device
- Work with both the data and resource forks of a file

What's A Fork?

GS/OS supports the concept of a "forked" file. A forked file is actually two or more files that are treated as one logical file entity. At this point, only a few operating systems support the concept of forked files. (GS/OS and the Macintosh OS are the best examples of operating systems that allow forked files). Any file that has more than one fork is called an "extended" file. And, while a forked file can theoretically have as many different forks as you want, Apple has only defined (and only supports) two types of forks: a data fork, and a resource fork.

On the IIGS, the data fork of a file usually corresponds to the executable code that is created by an assembler or compiler, and is loaded into memory and executed. (Of course, it can also contain simple data—it doesn't have to be an executable program.) The resource fork usually contains data structures and constants (i.e. menu definitions, windows, buttons, etc.) that are used by the executable code in the data fork.

Working With the Data Fork

To work with the data fork of a file, you don't really have to do anything special. When you tell GS/OS to open a file, it assumes that you want to open the data fork of the file. (If you want to open the resource fork, you must tell GS/OS that specifically.) Once you have the data fork open, you can use any GS/OS call that you wish to manipulate the contents of the file. In other words, working with the data fork of a file is just like working with any regular file on any other (non-Macintosh) computer system you may have programmed on.

Working With the Resource Fork

There are actually two ways to work with the resource fork of a file. The first is to open a file using the standard GS/OS Open call and telling it that you specifically want to open the resource fork of the file. After that, you can work with the file just as if it were the data fork of the file. However, this is not the recommended way to work with resource forks.

The recommended way to work with a resource fork is to open it, and access its contents, using the Resource Manager tool set. The Resource Manager is designed specifically to work with resource forks and their contents, and it makes life much easier for the IIGS programmer. (Of course, the Resource Manager is actually using GS/OS to do its work, but all of

the details are hidden from the programmer.) One way to think of a resource fork and how it relates to the Resource Manager is that the resource fork is a database containing data stored in very specific formats, and the Resource Manager is a set of tools that know how to quickly and easily access that data. We will discuss the Resource Manager in greater detail in a later article, but if you want to read up on it, you can look over the Resource Manager chapter in the *Apple IIGS Toolbox Reference Volume 3*.

How GS/OS Does All This

As I implied earlier, GS/OS is made up of different parts, all working towards a single goal. Two of these parts, drivers and FSTs, are directly responsible for actually carrying out almost every task that GS/OS performs. It works

something like this: You make a call to GS/OS (let's say you make a Write call), and then GS/OS passes that call on to the FST for the disk you are writing to, and the FST calls the driver to actually write the data onto the disk. Why go to all this trouble you ask? Here's why.

Why GS/OS Needs Drivers

First, let me say that, to GS/OS, everything you've hooked to your IIGS is a device. Your hard drive is a device, your 3.5-inch disk drive is a device, and your modem is a device. So, from here, I'm just going to refer to everything GS/OS can talk to as simply a device.

Now, with all these different types of devices that GS/OS can potentially talk to, it doesn't make sense to build all of the required knowledge of these devices

Table 1
IIGS Tool Sets

Name	Tool Set Number (Hex)	Discussed in
Apple Desktop Bus Tool Set	\$09	1, 3, 4
Audio Compression and Expansion Tool Set	\$1D	3, 4
Control Manager	\$10	1, 3, 4, 5
Desk Manager	\$05	1, 3, 4, 5
Dialog Manager	\$15	1, 3, 4
Event Manager	\$06	1, 3, 4
Font Manager	\$1B	1, 3, 4
Integer Math Tool Set	\$0B	1, 3, 4, 5
LineEdit Tool Set	\$14	1, 3, 4, 5
List Manager	\$1C	1, 3, 4, 5
Media Control Tool Set	\$26	4, 5
Memory Manager	\$02	1, 3, 4
Menu Manager	\$0F	1, 3, 4, 5
MIDI Synth Tool Set	\$23	4
MIDI Tool Set	\$20	3
Miscellaneous Tool Set	\$03	1, 3, 4, 5
Note Sequencer	\$1A	3
Note Synthesizer	\$19	3
Print Manager	\$13	1, 3, 4
QuickDraw II	\$04	2, 3, 4, 5
QuickDraw II Auxiliary	\$12	2, 3, 4, 5
Resource Manager	\$1E	3, 4, 5
SANE Tool Set	\$0A	2, 4
Scheduler	\$07	2, 4
Scrap Manager	\$16	2, 4
Sound Tool Set	\$08	2, 3, 4
Standard File Operations Tool Set	\$17	2, 3, 4, 5
System Loader	\$11	6
TextEdit Tool Set	\$22	3, 4, 5
Text Tool Set	\$0C	2, 3, 4
Tool Locator	\$01	2, 3, 4, 5
Video Overlay Tool Set	\$21	4
Window Manager	\$0E	2, 3, 4, 5

KEY

- 1 = *Apple IIGS Toolbox Reference Volume 1*
- 2 = *Apple IIGS Toolbox Reference Volume 2*
- 3 = *Apple IIGS Toolbox Reference Volume 3*
- 4 = *Programmer's Reference For System 6.0*
- 5 = *Programmer's Reference For System 6.0.1*
- 6 = *Apple IIGS GS/OS Reference*

into GS/OS itself. So, GS/OS relies on device drivers to talk to the devices that it will communicate with. These drivers act as intermediaries between GS/OS and the physical device that GS/OS needs to communicate with. For example, when you tell GS/OS to read 500 bytes from a disk in a 3.5-inch drive, GS/OS doesn't have clue as to how to position the read/write head in the disk drive, let alone how to actually tell the read/write head how to read those bytes. However, the device driver for the 3.5-inch drive *does* know how to do all that, so GS/OS simply asks the device driver to do all the dirty work, and pass the results back when it's finished. The same thing happens when GS/OS needs to work with your hard disk, your CD-ROM drive, or any other device hooked to your IIGS.

Why GS/OS Needs FSTs

Just like GS/OS doesn't itself know how to talk to all of the devices you can hook to your IIGS, GS/OS also has no innate knowledge of the different file systems that those devices may be formatted with. In other words, GS/OS doesn't really know the difference between a Macintosh and an MS-DOS disk. To help it figure out the difference, GS/OS uses File System Translators for each different file system that it wants to be able to use. These File System Translators take the raw data that is read from a device by a

device driver and turn it into something that GS/OS can actually understand.

If that weren't a good enough reason to use FSTs, consider this: GS/OS does not even have a native file system of its own! In fact, it *has* to use an FST just to be able to read ProDOS disks!

Why You Need to Use GS/OS

Because of its flexibility and extensibility, GS/OS is one of the best operating systems on any personal computer. By using GS/OS, you make your job as a programmer easier, and you also make sure that your application performs up to the standards that IIGS users expect. For example, if someone starts up your application and finds that they can't access HFS (Macintosh) disks with it, they're likely to be very upset with you and your program.

What About `<stdio.h>`?

If you are familiar with Pascal, C and other high level languages, you may be asking yourself, "Should I use GS/OS in my programs, or should I use the I/O functions built into my compiler?" The answer depends on what you plan to ultimately do with your program. If you plan on moving the program to some other computer in the future, you might want to stick with the I/O functions that are built into your compiler. However, if

you don't ever plan to move the program to another computer, you should go ahead and use GS/OS exclusively. (I should note however, that all of those compiler functions will actually be translated into GS/OS calls by the compiler.)

GS/OS in a Nutshell

So, in summary, GS/OS is a disk operating system that coordinates communications between your application and all of the devices hooked to your IIGS. By using GS/OS, you can read and write data from and to these devices and from and to any files that might be on them.

Now, you should go and read chapters 1 through 7 of the *Apple IIGS GS/OS Reference*. When you get back, we'll discuss the IIGS Toolbox.

The Toolbox

You might remember that we already discussed the IIGS Toolbox briefly in part 2 of our programming series. But, we need to talk about it again, just to make sure that you understand what the Toolbox is and why you *must* use it in your IIGS programs.

So, What is the Toolbox?

The IIGS Toolbox is a collection of pre-written procedures and functions. Each individual procedure or function is called

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Figure 1 When to Use StartUpTools & ShutDownTools

```
when starting my application
    initialize my application variables
    specify the tools I need in a StartStop record
    call StartUpTools with my StartStop record

{ actual application goes here }
```

```
when quitting my application
    call ShutDownTools with my StartStop record
    clean up my application variables
    quit my application
```

a *tool*. But, when you put them all together and consider them as a single entity, they are called the *Toolbox*. That's really all there is to it.

Now, based on the above definition, a "Toolbox" could be any collection of useful routines. (In fact, the IIGS Toolbox was named after, and based on, the Macintosh Toolbox. And I once heard of a collection of routines for the Atari ST called the "Tacklebox." So, you see, any collection of routines can be "boxed.") Of course, what sets the IIGS Toolbox apart is that it is intended specifically for the IIGS. (And, from this point on, when I refer to a "Toolbox" I'm referring to the IIGS Toolbox, unless I specifically state otherwise.)

So, What Tools Are In the Toolbox

An easier question might be "What tools *aren't* in the Toolbox?" The Toolbox contains tools that let you manage just about every aspect of the IIGS, and almost every nuance of the desktop interface. There are tools for drawing things, printing things, editing text and even making music.

With so many different tools (well over a thousand), it would be nice if there were some easy way to group them into smaller units that you can easily manage in your head. So, inside of the Toolbox, these tools are grouped into smaller functional units called "tool sets." For example, all of the tools for printing are grouped into a single tool set called the Print Manager, and all of the tools for manipulating resources are in a tool set called the Resource Manager. (It's important to note that not all tool sets are called "Managers." Some, like the TextEdit tools are just called "tools," and others, like QuickDraw II, are just called by a one-word name, i.e. "QuickDraw." In general, the only reason a tool set might be called a "Manager" is if it sounded good at the time they were thinking up names.) For a complete list of the IIGS

tools sets that are available at this time, see Table 1.

How to Use the Tools

When you start a project around the house, that first thing you (should) do is lay out all of the tools involved in the project, so that they will be immediately available when you need to use them. Similarly, when you start a IIGS programming project, you must get the tool sets you need ready to use by loading and starting them. To load and start tools on the IIGS, you use a tool set called the "Tool Locator." (If you are thinking that you have to load and start the Tool Locator first, then you are thinking correctly. But don't worry, the Tool Locator is built into ROM, so it can easily load and start itself, all you have to do is to tell it to.)

"Loading" a tool set is pretty much exactly what it sounds like. The Tool Locator loads the tool set from disk (or ROM) and puts it into memory where the Tool Locator can easily get to it later.

"Starting" a tool set is the process of initializing the tool set so that it will be ready for use by an application.

"Shutting down" a tool set gives the tool set a chance to clean up after itself. So, if a tool set allocates any memory or

changes the state of the IIGS in any way, shutting the tool set down allows it to release that memory or to reset the IIGS to its previous state.

"Unloading" a tool set is also pretty much what you think it is. The tool set is removed from memory and that memory is made available to the rest of the system again.

In the past, the process of loading and starting all of the tool sets required for a IIGS application was a pain in the butt. Each tool set had to be loaded and started individually. And, when you finished with your tools, you had to shut them down and unload them from memory in the reverse of the order that they were loaded. As you can imagine, this could be a real nightmare for the novice IIGS programmer (and it wasn't a lot of fun for the "old pros" either).

However, with the introduction of IIGS System Software v5.0, things got a lot better. System 5 contained two new Tool Locator tool calls that reduced the process of loading, starting, shutting down and unloading tool sets to just two calls. These new tools were called StartUpTools and ShutDownTools.

StartUpTools does exactly what its name says it does. It starts up a bunch of tools. It also loads those tools for you if necessary. You specify which tools you want it to start up by passing it a list of those tools. This list is called a StartStop record and you can either build it the old-fashioned way (by hand), or you can use a resource editor like Genesys or Foundation (which was just re-released as freeware). Or, you can simply copy a pre-made StartStop record from one of the programs on your GS+ Disk. Whichever way you choose to create your StartStop record, you must read chapter 51 of the *Apple IIGS Toolbox Reference Volume 3* for complete information on how StartUpTools actually works.

GS+ Magazine Has Moved!!!!

See "What's New?" for more
information.

ShutDownTools also does exactly what its name says it does. It shuts down all of the tools that were started by StartUpTools. To make sure it shuts down the correct tools, you pass it the same StartStop record that you gave to StartUpTools. Here again, you should read chapter 51 of the *Apple IIGS Toolbox Reference Volume 3* for complete information on how this tool works. So, let's put all of this tool startup and shutdown stuff together into the simple bit of pseudocode that is shown in Figure 1.

Of course, while it is nice to be able to start up all the tools you need at once, there might be times that you will still need the ability to load and start a tool set individually. One such time might be in a new desk accessory, where you only occasionally need the use of a certain tool set. You would load the tool set, start it, use one or more of the tools in it, shut down the tool and then unload it. To do this, you will need to read up on the following Tool Locator tools: LoadOneTool (page 24-10 of *Toolbox Reference Volume 1*), and UnloadOneTool (page 24-25 of *Toolbox Reference Volume 1*). To actually start up and shut down the tool set that you are interested in, you will need to read the documentation for that particular tool set. The reason for this is that each tool set has its own pair of start

up and shut down calls that must be made.

User Tool Sets

In part 2 of this series, I mentioned that there was such a thing as a "user" tool set. While the concepts of writing and using user tool sets are a bit too advanced for this installment of our series, I did want to mention again that they exist. I'll also mention that if you want to find out more about user tool sets, you need to read Appendix A of *Toolbox Reference Volume 1*.

Why You Must Use the Toolbox

By now, you should have a pretty good idea of why you should use the Toolbox. But, just in case you used to work for the FTA, I will list the big reasons once again.

- Using the Toolbox ensures that your program will have the look and feel that users have come to expect from Apple IIGS applications. This means no surprises for your users, which goes a long way to ensuring happy users (i.e. happy customers).
- Using the Toolbox ensures that your application will be able to run on all Apple IIGS models. At this point, this only includes ROM 01 and ROM 03 machines, but someday it could include a IIGS emulator running on a Power Macintosh.

• If you don't use the Toolbox, you are effectively "re-inventing the wheel." This can be a colossal waste of time, and the end results can be very confusing and frustrating for both you and your users.

To Sum It All Up

The IIGS Toolbox is simply a collection of pre-written procedures and functions that allow you to easily create and maintain a standard IIGS "look and feel" for your application. Individual tools are grouped into functional tool sets that deal with one particular aspect of the IIGS. These tool sets must be loaded and started before you can use them, and you *must* shut them down and unload them when you have finished with them.

Now, you should go and read chapters 1 and 2 of the *Apple IIGS Toolbox Reference Volume 1*, for the official word on what tool sets are and how to use them.

That's It For Now

So, that's a quick look at what you need to know about GS/OS and the IIGS Toolbox before you begin writing a IIGS program. In our next installment, we'll put everything together and write a simple application shell. At the same time, we'll discuss the concepts of the menu bar and how to interact with the user. GS+

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So You Bought A Hard Drive Mechanism. Now What?

By Erik "Lurch" Kloeppe

So, you read last issue's guide to buying a hard disk mechanism and, in a fit of insanity, you've decided you are going to build yourself a hard drive—either to supplement or replace your current drive. Obviously you feel you have the technological ability to attempt this oh-so-daunting project, but you are unsure of where to start, what you need, or where to go from point A. Not to worry! I will now show you how to do all this with my usual elan. (Well, better than that, I hope.)

Now, if you *don't* think you can do this kind of "technical" work, take note of this: In preparing for this article, I ordered all the parts listed, but I didn't get the assembly started when I wanted to, and left everything lying on the kitchen table while I went meekly off to work. My wife (who is about as technically minded as a rock) decided to help out. She took all the parts, and with no help or instructions, assembled the drive correctly in 15 minutes. After I proved to her that she'd done it correctly, I disassembled the drive and reassembled it in about 7 minutes.

Step 1: Order the Mechanism.

For the sake of argument, we will assume

you have at least decided which hard drive mechanism you want—even if you haven't actually ordered it yet. (If not, you need to decide what capacity of drive you want, and what the best price is. I can't help you with the capacity issue, but you can take a look at the last issue of *GS+* Magazine ["Mr. Priceguide Looks at Hard Disks"] or one of my "Mr. Priceguide" articles on DELPHI for some assistance with pricing.) With the information given in my last article, and the information given in this article, you can order all the stuff you'll need at the same time. Well, on the same day, anyway, but make sure you order the drive mechanism *first*.

Note: If you are buying a 3.5-inch drive mechanism, you *may* need to get a power cable adapter (Jameco Electronics carries them: P/N 85024, \$2.49), since some of these size drives have a different sized power connector. If you are ordering a 3.5-inch drive mechanism, ask the people you order the drive from if it will need any type of power cable adapter.

Step 2: Order Everything Else.

One of the next things you will order, the drive enclosure, depends on your choice of mechanism. If you have decided on a

5.25-inch mechanism, you need to make sure the enclosure you buy will hold it. The same is true if you are getting a 3.5-inch mechanism, since there are some taller 3.5-inch mechanisms that won't fit into the smaller enclosures. The only way to be sure about this is to ask the people you are buying the enclosure from if your drive will fit. So, when you order your enclosure, be sure to give them make and model number of your drive mechanism.

Also, be sure to ask the following questions:

- Does the enclosure come with an internal SCSI cable?
- Will the power cable will fit my mechanism? (Have the make and model handy!)
- Will you will be able to set the SCSI ID without opening the case?

For this article, I ordered an enclosure from Alltech Electronics, and it came with everything I needed (cables, screws, etc. see Photo 1). I also called Tulin and a couple other places—all of which sell their enclosures with all the cables and hardware you need. We'll discuss this

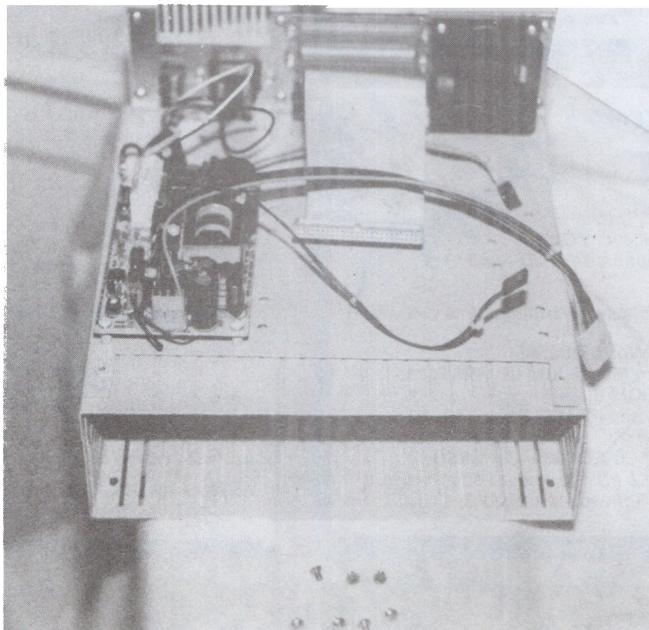


Photo 1 - The Empty Enclosure

Table 1

<u>Description</u>	<u>Jameco Part Number</u>	<u>Cost</u>
# Enclosure	n/a	\$45 (you can spend more)
* External Power Cable	84937	\$2.98
Internal SCSI Cable	72848	\$4.49
+ Mounting Rails and Screws	34323	\$2.95
Jumper Blocks	19140	\$.17each * 3 = \$0.51
Total		----- \$56.03 plus shipping

- * Should come with the enclosure
- + Should come with the drive mechanism
- # Ordered from Alltech Electronics and has everything we need

hardware later, but for now we'll assume the answer to all the above questions is "no."

So, if you have to buy everything separately, what else do you need? Not that much actually. All you need is an internal SCSI cable, jumper blocks, and mounting screws (see Photo 2). Actually, the screws usually come with the drive mechanism, but we'll pretend they didn't this time.

At this point, I am going to point out something that completely surprised me. I called 50 electronics and computer stores in my area, and *not one* of them could get

me all the parts I asked for! Even Radio Shack employees shook their collective head in sorrow. In fact, half the places I called couldn't supply *any* of what I asked for. Thank goodness for my Visa Card and mail order places like Jameco Electronics.

As I said, I ordered my enclosure from Alltech, but I could have ordered it from Tulin, or any one of half a dozen other places. (A complete list of parts vendors is shown in Table 2.) Unfortunately, Jameco doesn't carry drive enclosures, but they *do* carry all the other little parts we need. The part numbers that you will find in Table 1 are Jameco part numbers.

Now, not counting the drive mechanism, how much is all this going to cost? I mention this here because this is *everything* you need! Well, all this stuff and a #2 Philips head screwdriver, but you probably already have one of those around the house. A quick tally, using actual figures, gives us the results shown in Table 1. A pretty good price, no?

Mr. LaForge, Report!

At this point we must use a Star Trek® plot device so that we find ourselves in another time where you have not only ordered everything, but received it as well. All parts and pieces are lined up neatly on your desk. So, that brings us to:

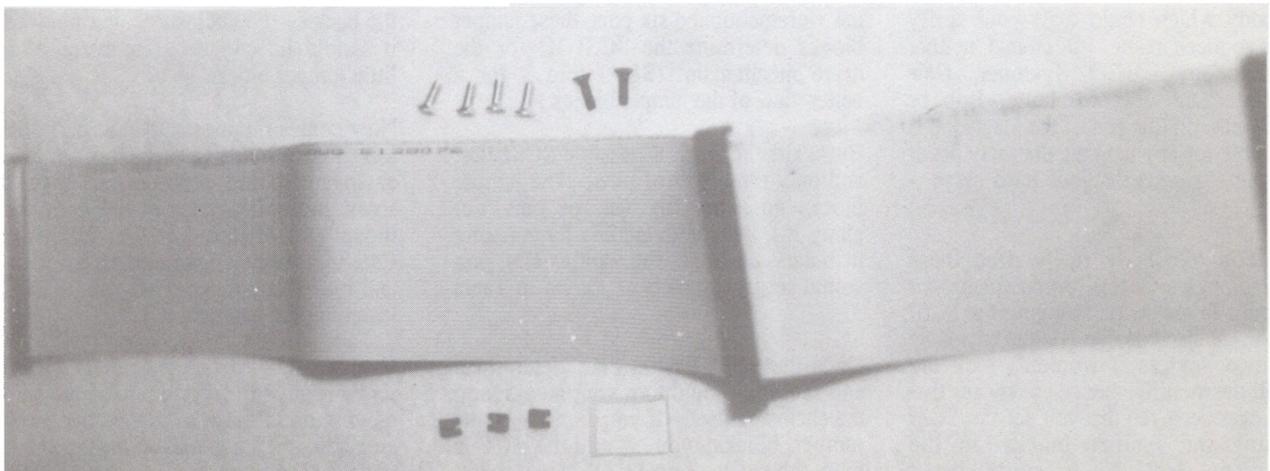


Photo 2 - Top to Bottom: Mounting Screws, Internal SCSI Cable and Jumper Blocks

Table 2 Parts Vendors

Jameco Electronic Components
1355 Shoreway Road
Belmont, CA 94002-4100
800-831-4242

Alltech Electronics
2618 Temple Heights
Oceanside, CA 92056
800-995-7773

Tulin Technology
2156H O'Toole Ave
San Jose, CA 95131
408-432-9057

Step 3: Put It Together & Make It Go!

First, let's partake of some simple accident prevention. While working with electronic components, it's a good idea to take precautions to reduce the chance of frying your equipment with static electricity. A good way to prevent this is to use a grounding strap. If you have a grounding strap, use it. If not, go to your local Radio Shack and buy one! If you *absolutely* can't get a grounding strap, secure power to your computer, take the cover off, and **LEAVE IT PLUGGED IN AND TURNED OFF**. Every few minutes during the assembly of your new hard drive, touch the power supply of your computer. While still far short of a grounding strap, this is the second best way to drain static charge from your body which could toast your spiffy new drive mechanism. [Of course, neither Erik Kloeppel, EGO Systems, *GS+* Magazine, Diz, Joe, Michelle, Bob or anybody else on this end of the magazine is responsible for any damage that may occur while putting together your hard drive. - Diz]

Next, let's see if we really need these jumper blocks. Check the enclosure for some built-in means of changing the SCSI ID of the enclosed device. (If the enclosure is for two devices, I wouldn't look too hard, all the multiple device enclosures that I have ever seen require you set the SCSI ID using the jumper blocks on the mechanism itself.) It could be a thumbwheel or a punch switch—probably on the back. If it's there, you can disregard the jumper blocks—there will be a small cable attached to the switch on the inside of the enclosure.

If you need the jumper blocks, you need to know what SCSI ID you are going to use with this device. With that in mind, check the ID numbers of your other drives, then pick up your drive mechanism and turn it so the circuit board is down and the long double-row of pins in the blue connector is facing you. Immediately to the right of that connector should be eight pins, or, to be more accurate, four pair of pins. You can ignore the pair of pins closest to the blue connector, we're interested in the other three pair. Examine the jumper blocks and you'll note they have a pair of holes in one end that look like they just might fit over the pins on the drive. Indeed, that is their very purpose. In conjunction with the aforementioned six pins, these jumper blocks determine the SCSI ID for the drive mechanism. (See Photo 3 for a better view of the jumper blocks.)

But wait! there are 8 possible SCSI IDs, and only three pair of pins! (The jumper blocks go across the line of pins, not along it.) This is overcome by counting in binary, so to set the various IDs, you would set the jumpers as shown in Table 3.

Once the SCSI ID has been determined and set, you should turn your attention to the enclosure itself. If you didn't need the jumper blocks, you should be at this point already. Locate all the internal cables, and attach them to the appropriate places in the enclosure. I don't need to be more specific than that (which is a good thing, because I really can't be) because all the cables use different connectors. You

can't put a cable in the wrong connector. In fact, you can't even put a cable in the correct connector wrong. Everything is "keyed" to go together in only a certain way. So, just take some time to look at all the connectors, use a little common sense, and everything should fit together perfectly.

With all the cables attached to the inside of the enclosure, you may attach their other ends to the drive mechanism itself. Again, you needn't worry about which cable goes where or how, since you would have to try *very* hard to do it wrong. As nearly as I can tell, the only place you might possibly have problems is attaching the cable from that SCSI ID selector on the back of the enclosure—but obviously it should be connected in place of the little jumper blocks.

Now comes the most difficult part of the job. Place the drive mechanism into the enclosure, doing your best to align the screw mounting holes in the drive with those pre-drilled in the enclosure. Carefully turn the whole assemblage over and make sure of your alignment before installing the first screw.

I've found it easiest to merely get one screw barely threaded into the drive before moving on to the next. Once two screws are started, it's a lot easier to start the last two, and once all four are started, it's a simple matter to drive them all the way. Think of how you mount a tire on your car—it's a lot easier to hang the wheel on the hub and quickly thread all the lug-nuts on, *then* screw them on all the way, than

Table 3

Jumper Placement	SCSI ID	Jumper Placement	SCSI ID
•••	= 0	■••	= 4
••■	= 1	■:■	= 5
•■:	= 2	■■:	= 6
•■■	= 3	■■■	= 7

Key:
The dots represent the pairs of connector pins.
The blocks represent the jumper blocks.

it is to screw one lug-nut on all the way before going on to the next. (See Photo 4.)

At this point (if you are still unsure of yourself) it's safe to plug the new beast in to both the computer and the power supply and test it out. You can put the cover on the enclosure later, after you are sure it works.

You may have to perform a low-level format of your new drive, but that is no problem. There are several software applications that can do this for you, Prosel and UtilityWorks GS spring most readily to mind, and you can also use the

Advanced Disk Utility that comes with the IIGS System Software.

Depending on the capacity of your mechanism, this procedure could take a while. Not hours, but certainly time enough for you to go grab a beer and a slice of pizza. Once the low-level format is complete, your utility should be able to do a "high-level" format on the drive. This is where you determine the file system to be used. For small drives (under 200MB) I suggest you stick with the ProDOS filing system unless you have a specific need for a partition larger than 32MB. If your drive is larger than 200MB, I suggest a few ProDOS

partitions backed up with a larger HFS partition. At least, that's the way I wouldd configure my system. Your requirements might call for a completely different setup, say, one ProDOS partition and a much larger HFS partition. No matter. Any way you go at it, you *must* have at least one ProDOS partition, because you have to boot from a ProDOS volume. [For all the technical reasons behind this, see "Casual 6" in GS+ V3.N5 - Diz.]

Of course, once the drive is high-level formatted, you may use it just as though you had bought it from the local computer store for some hideous price.



Photo 3 - SCSI ID Jumper Blocks

All this took, what . . . 15 minutes of physical labor putting the silly thing together and maybe an hour formatting? And you thought it would be difficult!

Other Stuff to Think About

I should also point out that bitter experience tells me that it is a *very* good idea to perform regular backups. Fortunately, these assembly instructions work just as well with SCSI *tape* drive mechanisms as they do with SCSI hard drive mechanisms! You just have to make sure to get an enclosure that allows you to remove part of the faceplate so you can get the tapes into the mechanism.

There is a down side to this new know-how. Pretty soon, as money permits, your desk is taken over by new hard drives. The dratted things are everywhere, like cats or little sisters, leaving you no room at all for your mouse pad, much less your issue of *GS+* Magazine.

Fortunately, there is something you can do about it. Scan the local paper or wander into the local used computer store or flea market and pick up a PC enclosure (motherboard not needed nor desired). They generally cost about \$50 or so and can hold all manner of drive mechanisms. What's really nice is they come with a power supply, internal power cables, and can probably hold all your drives, not just your hard drives, though your floppy drives might require special cables. I

favor a full size tower cabinet for this project because it probably holds the most drives, and you can put it on the floor next to your desk and still have quick and easy access to your floppy drives. But, I will leave those details to you. If you happen to be interested in me doing an article for this project, let me know through the fine folks at *GS+* Magazine,

and I will see about doing it for a future issue.

The End

Now that you are qualified to assemble hard drives, you may go out and charge your friends exorbitant prices for the drives you assemble for them. I get 5 percent, though. *GS+*

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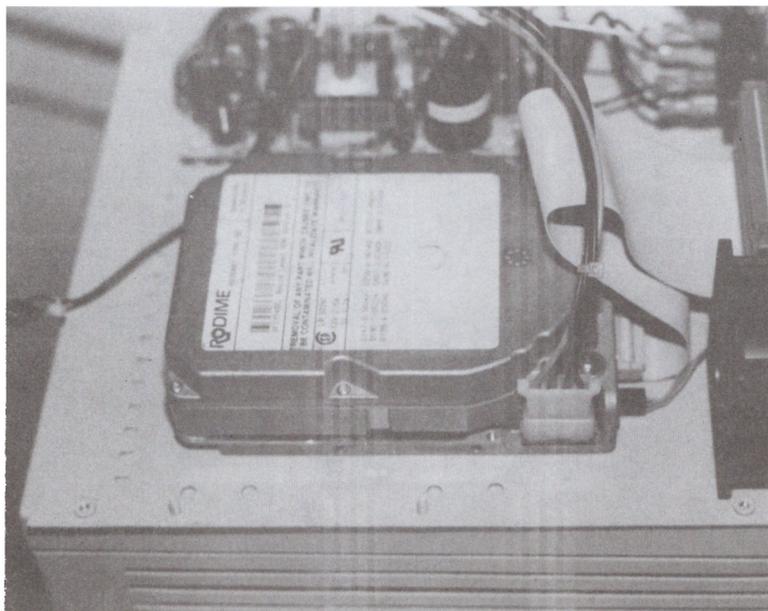


Photo 4 - Almost Done!

We've Moved!

Well folks, after five long years, I'm finally taking EGO Systems and *GS+* Magazine out of my living space and into an honest to gosh office! Why? Because the space was big (1,500 square feet vs. the 600 square feet we were in before) and very, very inexpensive. So, what does this mean to you, the *GS+* Subscriber? Well, not much really. Although our physical location has changed, our mailing address and toll-free order line are staying the same. Unfortunately, our technical support and fax phone numbers *are* changing. So, here are all the ways to contact us effective June 15th, 1994.

Technical support and Inquiries: 1-615-332-2087
FAX (24 hours a day): 1-615-332-2634
Orders only: 1-800-662-3634
America Online, Delphi: GSPlusDiz
GEnie: JWankerl
NewtonMail: Diz
InterNet: GSPlusDiz@aol.com

Mailing address:
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P. O. Box 15366
Chattanooga, TN 37415-0366

Our new physical address is on this issue's title page. However, *please* do not send things to our physical address without contacting us first. (We like to keep the physical address reserved for things like UPS, overnight shipments and advertisements.)

So, please make a note of these new phone numbers, and spread the word that we've moved! Thanks to everyone out there for making EGO Systems and *GS+* Magazine enough of a success that I can finally get out of my basement!

Cool New Freeware

While messing around online a few days ago, I came across two great new freeware items that I thought everyone should know about.

First up is the HardPressed RunTime init by Andy McFadden (author of WestCode's HardPressed [see review in *GS+* V4.N6]). This init allows you to decompress files that were compressed with HardPressed using the LZSS compression method. Unfortunately, LZSS is the *only* type of decompression that this init handles, but it's better than nothing. So if you don't have HardPressed, but sometimes share files with someone that does, you should check

this one out. By the time you read this, the HardPressed RunTime should be available on all of the major online services. (It's file number 22768 on GEnie.)

Next, we have a set of RamFAST/SCSI CD-ROM drivers that allow you to play audio CDs in any NEC, Texel, or Apple CD 150 drive that is hooked to your RamFAST/SCSI card. With these drivers (and the Media Control tool set) installed, all you have to do to listen to your favorite audio CD is pop it in the CD drive, and click "Play" in the Media Controller new desk accessory! The music will then start playing through the headphone jack of the CD drive! (The music does *not* come out of the IIGS speaker—thank goodness!) The drivers, which were written by Jawaid Bazyar (the same fellow that wrote discQuest [see review in *GS+* V5.N5]), work great! Best of all, even if you have to reboot your computer or if you run a ProDOS 8 program, the CD will keep playing as if nothing happened. If you've been wanting to hear music out of your CD drive, get your hands on these as soon as you can! (The file number on GEnie is 22641.)

It's No Joke

Joe Kohn, publisher of the *Shareware Solutions II* newsletter has announced that he has taken over the publication of the popular Contacts GS new desk accessory (see review in *GS+* V4.N1). Written by famous Apple II personality, "Burger" Bill Heineman, and previously published by Simplexity Software, Contacts GS is a "Rolodex" style new desk accessory that stores names, addresses and phone numbers in an easy to use database. And, since Contacts GS stores its information in a standard ASCII text file, it's easy to import your names and addresses into another program (like, maybe, Addressed For Success), so that you can print mailing labels or otherwise work with your list of names. For more information on Contacts GS, contact Joe Kohn at:

Joe Kohn
166 Alpine St
San Rafael, CA 94901-1008
InterNet: joko@crl.com

Warning! Blatant Plug Ahead!

As you may have heard by now, ECON Technologies has left the IIGS market (see this issue's "Writer's Block" for more information). Before they left though, they worked out a deal with us whereby

EGO Systems becomes the publisher of the AutoArk file compression utility and the Addressed For Success database and label program.

As I write this, our release of the next version of AutoArk is still in the works. So, I cannot guarantee a release date as of yet. Hopefully, we will be able to have it ready to go by KansasFest conference time (which is late July). For the latest information, be sure to check the *a.Read.Me* file on your *GS+* Disk. However, I can tell you that this new version will fix all of the known problems in the current version and might even contain a couple of extremely cool new features.

Addressed For Success however, is a completely different story. We began shipping version 1.1 of Addressed For Success on June 3rd, 1994. This new version fixes all of the known bugs in the previous version and has one major new feature: The ability to read AppleWorks Classic version 4.0 database files!!

For those of you that aren't familiar with Addressed For Success (AFS, see review in *GS+* V5.N4 [not to worry, we reviewed it—and liked it—before we took it over from ECON]), it is a IIGS-specific, desktop-based application that allows you to easily maintain mailing lists and create and print a wide variety of labels from those lists.

Mailing lists can be sorted on any field (a bulk-mail sorting option is also included), and records can easily be searched and selected using AFS's powerful "Query By Example" feature. AFS also allows you to quickly and easily import lists from AppleWorks Classic databases, or from any tab-delimited ASCII text file.

AFS lets you design and print a wide variety of labels on any printer that you can use from a IIGS desktop program. Each label can have a predefined return address and up to three super high-res graphics on it. (Print Shop and Print Shop IIGS graphics can also be used if they are first converted to super high-res format.) The font, size and style of the label text can be changed to any font that you have installed on your system, and graphics can be scaled both horizontally and vertically to ensure the best results when printing.

AFS includes pre-defined templates for dozens of Avery brand labels for use with

both the ImageWriter and the LaserWriter. But, if you have a type of label that is not included, AFS allows you to easily create and then save your own label templates, which you can then use over and over again.

Version 1.1 of AFS includes the following bug fixes and new features:

- AFS now correctly imports all records from an AppleWorks Classic database file. (Previously, the last record would be missed during an import operation.)
- Text files with an auxiliary type other than zero (such as those created by DB Master) will now show up and can be imported.
- AppleWorks Classic v4.0 database files can now be imported.

• Improved keyboard navigation allows you to quickly move through your mailing lists without having to use the mouse.

And, best of all, the retail price of Addressed For Success is now only \$35! This price includes shipping to anywhere in the world. (However, Air Mail shipping outside of North America is \$3 extra.) If you already own AFS, the cost to upgrade to version 1.1 is only \$5 (which includes First Class or Air Mail shipping to anywhere in the world).

To order Addressed For Success v1.1, or to upgrade from an older version (don't forget to include your serial number with your order!), give us a call at 1-800-662-3634 between 9 a.m. and 5 p.m. Monday through Friday. (Outside the United States, call 615-332-2087. We accept

Visa and MasterCard for all phone orders.) If you prefer to order by mail, send your check or money order (made payable to "EGO Systems" and in US funds only), or credit card information to:

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If you have a IIGS product or other information that you want IIGS owners to know about, we want to help you out! Simply send your press release to us at the address below (e-mail is OK too), and we'll take care of the rest!

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GS+ Back Issue Information

May-Jun 1990 (V1.N5)

- AppleFest Report
- Beginner's Guide to System Disks - Part 1
- GS+OS prefixes - Prefixer CDev
- Brush with Greatness - How your IGS makes colors
- Reviews: CMS 45MB Removable Hard Drive, S&S-RAMCard, DataLink Express modem, Visionary GS digitizer, GraphicWriter III, ZapLink, McGee, Math Blaster Plus IGS, The New Talking Sockybear Alphabet, ZipGS

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 - A CDev that allows you to rename RAM disks
- GS+ program updates: Battery Brain v1.1, EGOed v1.32c, Teach Translator for GraphicWriter III v1.1
- Reviews: ZipGSX, LightningScan, Design Your Own Home, Print Shop Companion IGS, Your IGS Guide, Dragon Wars, 2088: The Crylan Mission - Second Scenario, Space Ace, Sirbad & 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 desktop program that generates Fractals
- GS+ program updates: EGOed v1.36, Autopilot v1.1, NoDOS v1.6
- Reviews: two 100MB hard drives, Nite Owl Slide-On Battery, ORCA/Ineger BASIC, ORCA Talking Tools, Storybook Weaver: World of Adventure HyperBole, HoverBlade, Shareware: DeskTop Painter, SoundSmith, IGS Classic: Bard's Tale IGS

Jul-Aug 1992 (V3.N6)

- KansasFest 1992
- Introduction to 3-D Graphics - Part 3: Speeding Things Up
- Working with the Toolbox - Part 8: The Control Manager
- Understanding FSTs
- Using rBundles in Your Programs
- Quick Folder - A Finder Extension that allows you to open folders from the Finder's Extras menu. Requires System 6.
- Extra Bits - A Control Panel that lets you change the new Battery RAM parameters that System 6 didn't provide a Control Panel for. Requires System 6.
- GS+ program updates: EGOed v1.7 (requires System 6), Quick DA v2.0 (requires System 6), Replicator v1.3
- Reviews: ZipGS (10MHz CPU/64K Cache), Gate, Space Fox, Utility Launch & Utility Works

Sep-Oct 1992 (V4.N1)

- Apple EXPO East
- Open From Desktop - A Finder Extension that allows you to open any item on your desktop from the Finder's Extras menu. Requires System 6.
- II Notes - A 20-page NDA notepad. Requires System 6.
- Miscellaneous Library - A collection of useful routines to use from any programming language that supports linking to standard libraries
- GS+ program updates (require System 6): Autopilot v2.0, Quick DA v2.1, EGOed v1.7.1
- Reviews: ContactsGS, GSymbolix, Kangaroo, ORCA/Debugger, UltraCat, Storybook Weaver: World of Make-Believe

Nov-Dec 1992 (V4.N2)

- Understanding Accelerators
- The Basic IGS
- Working with the Toolbox - Part 9: The Menu Manager
- Font Reporter - A program that lets you display and print out any font in your system. Requires System 6.
- Miscellaneous Library (updated)
- GS+ program updates: EGOed v1.8 (requires System 6), Replicator v1.3.1
- Reviews: AutoArk, 1990 GEM Apple II CD-ROM, IGS System Transport Case, Out of This World, TrueType Font Collection, Universe Master
- Review update: Desktop Enhancer v2.0, Pointless ->v2.0

(All programs after this issue require System 6.0.1, unless otherwise noted)

Jan-Feb 1993 (V4.N3)

- The World at Your Fingertips
- Understanding the Desktop
- Batt Reporter - A program that generates plain English reports from battery RAM configuration files
- Rainbow - A Finder extension that lets you change the colors of your device icons
- Miscellaneous Library (updated)
- GS+ program updates: Battery Brain v2.0, Open From Desktop v1.0.1, Rebuild Desktop v1.1, EGOed v1.9
- Reviews: CV-Ram Memory Card, StyleWriter printer, ProSel-16, TransProg III v1.1, Art Wars, FloorFiles, Quest for the Hoard

Mar-Apr 1993 (V4.N4)

- Beginner's Guide to Finder v6.0
- Working with the Toolbox - Part 10: LineEdit
- LASERbeam - A program that lets you download PostScript files to a PostScript printer
- Font Memories - A control panel that lets you keep your bit-mapped fonts on a disk other than your startup disk
- EGOed lite - a smaller, faster version of the EGOed New Desk Accessory
- Miscellaneous Library (updated)
- GS+ program updates: Rainbow v1.0.1, NoDOS v1.8
- Reviews: Salvation-Deliverance, DreamGraphics, The Manager, The Passport House Letter, The Lost Tribe, DualTris

May-Jun 1993 (V4.N5)

- The Scavenger - Using your IGS with CD-ROMs from other computers
- Apple EXPO West Report
- Anna Matrix - a Cool Cursor Editor
- GS+ program update: Cool Cursor v2.0, Miscellaneous Library
- Reviews: Apple Desktop Bus Mouse II, Baccarat, Key Fonts Pro CD-ROM, MAZER II: The Ghost of Mordaine, Pick 'n' Pile, Shanghai II: Dragon's Eye, Solarian GS, Twilight II, TypeWest Volume 1

Jul-Aug 1993 (V4.N6)

- System 6.0.1-For Users
- KansasFest 1993
- Catch the WAV: A Guide to Scavenging Sound Files
- Secrets of Writing Twilight II Screen Blankers
- Finder Binder: Avoid the annoying 'An application can't be found for this document' dialog by connecting documents to an application
- GS+ program updates: AutoSave v2.0, EGOed lite v1.0.1, Extra Bits v1.0.1
- Reviews: Castle Metacrus, HardPressed, The Lost Treasures of Infocom, Treasures From Heaven: Quest for the Hoard 2, Your Money Matters, Zip Drive

Sep-Oct 1993 (V5.N1)

- So You Bought a Hard Disk... Now What?
- Apple (Jive) Talkin'
- An Introduction to Object Oriented Programming
- File Dump: A complete Object Oriented Programming example written in ORCA/Pascal v2.0.1.
- GS+ program updates: Anna Matrix v1.0.1, Cool Cursor v2.0.1
- Reviews: Applied Engineering's High Density Disk Drive, Apple II SuperDrive Controller Card, MODZap, soniqTracker, ORCA/Pascal v2.0.1, SoundMeister, TypeSet

Nov-Dec 1993 (V5.N2)

- IGS Maintenance-Part 1: The Mouse and Keyboard
- SCSI ("Simple Connectors," Says Igor.)
- Balloon v.1.0: A finder extension that lets you extract files from ShrinkIt Archives
- CD-ROMM: An application that lets you scavenge files off of CD-ROMs
- KaBlooi! A version of the classic game Minesweeper for your IGS
- Reviews: 3D Logo, Focus Drive Hard Card, Priam, Tulin Optical Disk Drive

Jan-Feb 1994 (V5.N3)

- IPC (Igor's Playful Code) - A guide to using IPC on the IGS
- EGOed v2.0: Read and write RTF files, plus a new color menu
- MIDI Surgeon: Convert MIDI data files to MIDI Synth format
- Reviews: Ancient Glory, Apple Extended Keyboard, AudioClips, GNO/ME 2.0, HP DeskWriter 550C Printer, HyperLogo, NCS Pro 240 Hard Disk, Pedigree

March-April 1994 (V5.N4)

- Programming the IGS - Part 1: Getting Started
- Playful - A Finder extra that plays ALL rSounds in ANY type of file!
- What is This? - A Finder extra that gives you information on any icon you select.
- LASERbeam v1.1 - Now, download PostScript files and FONTS to your PostScript printer!
- Miscellaneous Library - New routines let you read Macintosh resources!
- Reviews - Addressed for Success, ORCA/Debugger vs. Splati, ORCA/Module-2

May-June 1994 (V5.N5)

- Programming the IGS - Part 2: Programming the IGS
- Mr. Priceguide Looks at Hard Disks - Advice on buying a hard disk mechanism.
- FLI Convert - An application that converts PC FLI animations into PaintWorks animations!
- MoreSound - An application that lets you change the events in the Sound control panel.
- Reviews - DiscQuest, MS-DOS File Utilities, Salvation: Backup v2.0, Spectrum

Any issues that are not listed are sold out.

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Note: Unlike the knockoff shirts made in the sweatshops of Cupertino, official GS+ Magazine t-shirts are 50% cotton and 50% polyester. **DO NOT** be fooled by imitations!

Rumors, Wishes & Blatant Lies

By Prof. G. S. Gumby

AppleWorks GS 2.0 No More

Yes, that's right. Quality Computers has pulled the plug on the long awaited, much anticipated, AppleWorks GS 2.0 update. According to a Quality spokesperson, the reason they did it is because the programming team was several months behind schedule, and by the time the product was finished, most IIGS owners wouldn't even own their IIGS any more. (Hmmm, I wonder if they are using that same logic with their other products.) Using this projection, Quality determined that they wouldn't even be able to make back their development costs. So, they killed the product.

However, if you talk to a member of the development team, you might hear a very different story. Apparently, Quality was never able to come up with contracts that were acceptable to the programmers involved, and so work on the project simply stopped. Worst of all, this happened after several of the programmers had spent several months working on the project, without any compensation at all. Unfortunately, it looks like everyone involved with this project ended up being a loser.

One Step Forward . . .

Remember the original Ultima adventure game? Well, you may have heard a rumor a couple of years ago that someone had done a IIGS version of Ultima. That rumor was in fact true, but the author could not find anyone in IIGS land with the clout to secure a license from Origin Software (the original publisher of Ultima) to publish the game. So, finally, the author contacted Lord British himself, and told him about the conversion. Much to the authors surprise, Lord British became very excited about the game and wanted to know if it was hard disk installable and if it ran under System 6! (Apparently, Lord British actually has a IIGS in his office.) So, the upshot of all this is that the IIGS version of Ultima will *finally* be published in the near future!

. . . One Step Back

While the news from the realm of Lord British is good, the news from downtown Sim City is very bleak. Apparently, the game is 99% complete, but Maxis, the company that owns the rights to the game, have asked for an extraordinary amount of money to license the game for the IIGS. Unfortunately, no one in the IIGS community has an extraordinary amount of money to pay for the rights to

the game. So, unless someone is willing to drop a big wad of cash on it, Sim City IIGS might never be published.

What's All This Then?

Over the last few months, I've spoken to several Apple II companies that have complained about the lack of a good means of advertising their products. Of course, Mr. Publisher has already, er, discussed, why some companies don't consider this rag as a good advertising choice (see this issue's "Writer's Block"). But, what surprised me in talking to these companies is that many of them claim that another Apple II magazine is refusing to let them advertise if their products compete with another product that the magazines parent company is already selling. (I tried to contact the person in charge of advertising for that magazine, to let him respond to these charges, but he never called me back.)

Sooo Sloooow . . .

Apple II developers are reporting that Apple's Developer Technical Support has recently gotten very slow in responding to requests for Apple II support. Even a simple request like the assignment of a file type is taking over a month to process! There is a reason for this (which I can't tell you, sorry), but the fact that it's happening at all is inexcusable.

Big Red Calls It Quits

As you may have heard elsewhere (I certainly did), Big Red Computer Club will be closing its doors at the end of this year. This move was prompted due to a decrease in Apple II product sales, and a decrease in new Apple II products. Before the end of the year, Big Red plans to publish five more issues of their *Scarlett* newsletter, which will fulfill about 90% of the subscriptions they currently have. If you have questions about your *Scarlett* subscription or any of Big Red's other products or services, you should probably call them while you still can. Their phone number is 402-379-4680.

New Magazine to Hit the Shelves

With the increasing popularity of PDA's, laptops, and automated Pez dispensers, it was only a matter of time before someone decided to publish a magazine devoted exclusively to this type of lightweight, easily concealable computer. So, the inmates at the minimum security federal prison in New Jersey have begun publishing *Computer Shoplifter* magazine. As the title suggests, this magazine will focus on which computers

are the easiest to slip in your pocket and make off with. In addition, the magazine will also feature articles on the best places to sell your like-new equipment, how to find and remove serial numbers and reviews of various "freeware" bulletin boards around the world.

According to the publisher (formerly a senior advisor in the Reagan and Bush administrations), "We are very excited about this new publication. Best of all, our start up costs have been minimal, so we should only have to charge \$10 or \$15 dollars an issue for subscriptions! But, of course, you should feel free to just pick up a copy at your local bookstore."

Courtland's Clone

Well, last issue's "Writer's Block" (about a IIGS emulator for the Power Macintosh) certainly has generated a lot of mail! Coincidentally, several rumors have started flying about a IIGS emulator that is in development at Apple Computer itself. Unfortunately, this work must proceed in secret, because the management types at Apple don't want their engineers working on Apple II stuff. But, work is apparently progressing, although at a very slow pace.

Save The Trees

As I told you recently, HyperCard IIGS is now a part of the IIGS System Software. As such, some license holders can distribute it along with the normal System Software. However, as with the normal System Software, this doesn't include any documentation. So, what do you do if you want to get the documentation? Well, if they still have one, you can buy a copy of the regular HyperCard IIGS package from your local Apple Dealer. But, if you want to get the *HyperCard IIGS Script Language Guide* that was published by Addison-Wesley, you had better build yourself a time machine. According to the folks at Resource Central, Addison-Wesley "recycled" (i.e. destroyed) their last few thousand copies of this excellent book a couple of weeks ago.

That's Super!

Believe it or not, a group of well-respected Apple II developers is working on an expansion board that will let your IIGS use any PC-style, Super VGA monitor. It should be available by next summer and it should be pretty inexpensive to boot. And, I'm told that it will in fact allow for *square pixels!*

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!!! Do *not* make your backup on your hard disk! Instead, copy the GS+ Disk to another 3.5-inch disk (this is very important). 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 v6.0.1 or later. (Note that all of the programs on this issue's disk [except EGOed lite] require System 6.0.1!) 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 backup GS+ Disk. (From the Finder, just double-click on the Installer icon.) *It is extremely important that you use the Installer that is on your backup 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 list on the left-hand side of the window, and the disk you want to install it on from the list on the right-hand side of the window. Then click on the Install button. For more information on using the Installer, refer to your IIGS owner's manual.

Before you attempt to use your backup 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 our EGOed lite text editor installed in your system, you can use the Teach application supplied with System Software v6.0 to read this file.

Installing EGOed lite

The following is a detailed example of how to install EGOed lite. The other programs are installed in a similar manner.

- Start up your IIGS with System Software v6.0 or later—the version of EGOed lite 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.)

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!

- 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 lite." (If EGOed lite 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 lite 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 lite on your startup disk. If you only have one 3.5-inch disk drive, you may have to switch disks several times. Just 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 lite (note that you have to be in a

desktop program like the Finder to have access to the Apple menu).

- When it finishes loading, notice that EGOed lite has its own menu bar. Select Open from the *EGOed lite* File menu and then put your GS+ Disk in a drive. You should see a list of the files and folders on the GS+ Disk.
- Open the Documentation folder on your backup GS+ Disk and then open the file *EGOed.lite.Docs*. This file contains complete documentation on how to use EGOed lite. *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 panels, and other system files on your GS+ Disk.

Towards that end, we have prepared the following list of "expendable" files that you can "safely" remove from your System Software v6.0.1 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 listed 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 v6.0.1

If you use the System 6.0.1 :Install disk to create a minimal, 800K, System 6.0.1 boot disk, that disk will have 26K free 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 **:System:P8* (18K).

If you do not care what time it is, you can delete the following file:

**:System:CDevs:Time* (10K)

After that, the 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 (42K)

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 8K file:

*:System:Drivers:AppleDisk5.25

If you do *not* have a printer, you may delete the following file:

*:System:CDevs:Printer (5K)

Finally, if you have deleted all control panels, and you won't be installing any control panels from the *GS+* Disk, you can also delete the 18K file:

*:System:Desk.Accs:ControlPanel

Removing some or all of these files will give you ample room (up to 138K on a ROM 01 IIGS and up to 133K on a ROM 03 IIGS) on your startup disk to install *EGOed lite* or any of the other system utilities from your backup *GS+* Disk.

What Is *EGOed lite*?

EGOed lite is a New Desk Accessory (NDA) text editor that we provide in each issue of *GS+* Magazine.

When you install *EGOed lite* 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.

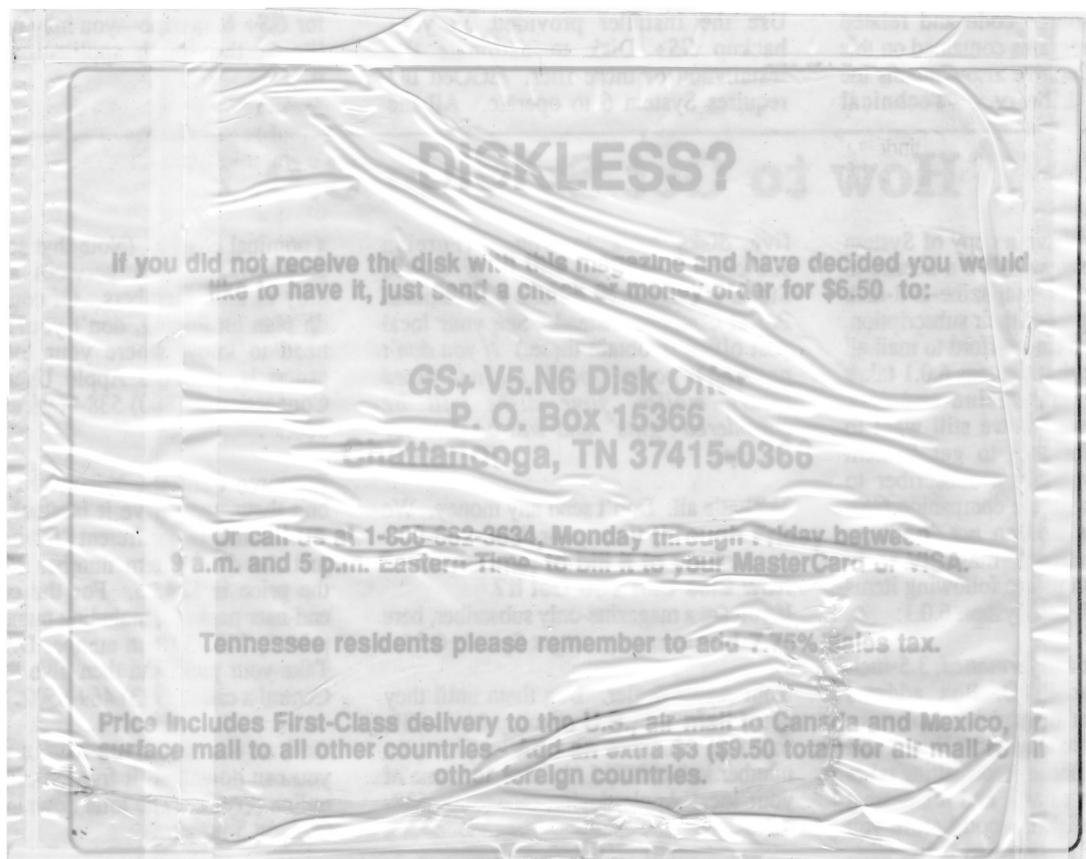
To use *EGOed lite*, you must install it on a IIGS System Software v6.0 (or later) startup disk with at least 40K of free space.

Note: You will *not* be able to print from *EGOed lite* or any other desktop program when using an 800K, System 6.0 boot disk. (There isn't enough room for all of the required drivers and control panels.)

If you want to save even *more* space, you might want to consider using Autopilot (from *GS+* V4.N1) 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, refer to the "Autopilot v2.0" article in *GS+* V4.N1 or give us a call.

Self-Extracting Archive

We use *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.V5.N6.SEA* program on your backup *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 will gain better control over



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

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 and we will try and help you locate a copy.

What's On The Disk

There are eight items in the root directory of this disk:

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 in this file. Please read this file before using the *GS+* Disk.

Documentation

This folder contains the EGOed lite documentation file and the complete *GS+* Glossary. The EGOed lite documentation is a Teach file which can be read using Teach, EGOed lite, or any other TextEdit based editor. The *GS+* Glossary file is a plain text file containing all of the terms defined in the past installments of the "*GS+* Glossary."

GSP.V5.N6.SEA

This is a self-extracting archive (SEA) containing the source code and related files for all the programs contained on this *GS+* Disk. The archive also contains the Miscellaneous Library. Technical

information, such as the Miscellaneous Library documentation is supplied in the archive as well. To extract the files from the archive, simply double-click on this file from the Finder. You will then be presented with a dialog asking you where you want the files extracted to. 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. The installer requires System Software v6.0 or later. Run it to install the other programs on this issue's disk. For more information on using the Installer, be sure to read the example on the previous pages, and refer to your owner's manual.

Programs

This folder contains the Clip On, EGOed lite, More Sound, Sun Dial, and What To Do programs. Also in this folder is the Chimes folder. The Chimes folder contains the custom chimes for the Sun Dial new desk accessory.

Use the Installer provided on your backup *GS+* Disk to automate the installation of these files. EGOed lite requires System 6 to operate. All the

other programs on this disk require System 6.0.1 to operate.

Scripts

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

Talk.To.GSPlus

This folder contains our feedback form, a troubleshooting guide, a problem form, and our writer's guide.

The feedback form is a plain ASCII text file. Fill it out, and let us know what you thought of this issue.

The troubleshooting guide contains tips on how to resolve some of the more common problems you may experience while trying to use the programs on your *GS+* Disk. If you are having a problem, *please* read this file before you go to all the trouble of filling out a problem form! But, if the troubleshooting tips don't help, *please* fill out the problem form and send it to us! This is a Teach file, you may use EGOed lite or the Teach application to view it.

The writer's guide is a Teach file that explains what you need to know to write for *GS+* Magazine—you may use EGOed lite or the Teach application to view it. *GS+*

How to Get System 6.0.1

Everyone should have a copy of System 6.0.1. 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 6.0.1 takes up to every magazine-and-disk subscriber. However, we still want to make it easy for you to get System 6.0.1. So, if you are a subscriber to *GS+* Magazine with the companion *GS+* Disk (sorry, but we can *not* distribute System 6.0.1 to our magazine-only subscribers), send us the following items and we will send you System 6.0.1:

1) Five (5) *blank and formatted*, 3.5-inch diskettes to our P. O. Box address (which is shown on the back of your magazine). We are asking for "blank and formatted" disks because formatting takes time that we don't have, and it's 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 It?

If you are a magazine-only subscriber, here are some other ways to get System 6.0.1.

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. 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

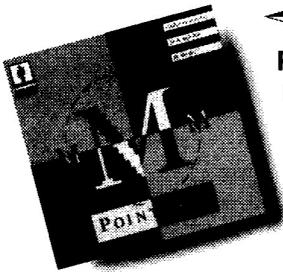
a nominal charge. (Note that some user groups make these services available only to their members. Of course, you do plan on joining, don't you?) If you need to know where your local user group is, call the Apple User Group Connection at (800) 538-9696 extension 500.

Resource Central. You won't have to bug them, they have it in stock, and in no less than two different "flavors." For just the disks (item number DA-006), the price is \$34.95. For the complete end-user package, including manuals, the price is \$49.95 (item number DA-0013). 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+*

The Best of the West

Since 1990, WestCode Software has created the best software you can get for your Apple II computer. And, now for a limited time, we're offering you the best prices ever on our highly-acclaimed products.



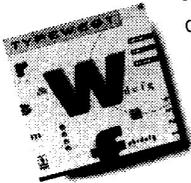
◀ Fantastic looking text on your printer.

Pointless 2.0 All your documents will look better than ever before, without unsightly hard-to-read jagged text. Pointless brings TrueType font technology to your Apple IIGS, providing impressive laser-sharp text on your ImageWriter, StyleWriter, DeskJet, LaserJet, and other printers. Plus, text on the screen will appear smooth at even the largest sizes.

For the Apple IIGS, System 5 or later. Reg. \$69.95
Sale \$39.95

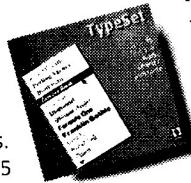
**The quick brown fox
The quick brown fox**

ImageWriter II printing before and after Pointless



TypeWest An outstanding collection of 40 TrueType fonts for use with Pointless. These professionally-designed typefaces are perfect for home, school, or work. Don't waste your time and money on lesser quality fonts from other sources.

For the Apple IIGS with Pointless. Reg. \$49.95
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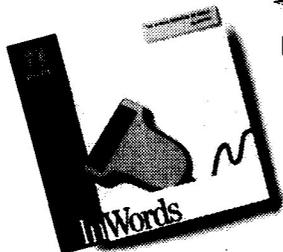
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Reviews

Six Pack

By Bill Tudor

Price: \$29.95

Quality Computers
20200 Nine Mile Rd.
St. Clair Shores, MI 48080
(800) 777-3642

Requires System 6.0 or later, hard drive with approximately 400K free space in the boot partition, 2 MB RAM. (At least 3 MB is recommended)

Reviewed by Bill Moore

The Pause That Refreshes . . .

In the middle of another long, hot summer (wait until December to read this if you live in the southern hemisphere), there's nothing quite like sitting down at your Apple IIGS and cracking open a cool six pack of . . . utilities! While it won't do much to quench your thirst, a well written utility can save you time, keystrokes, even your data in some cases. And Quality Computers, that big, but friendly, monolith of Apple IIdom in suburban Detroit, has seen fit to put together a package of almost twenty cool new desk accessories (NDAs) and Finder Extras, and named it . . . Six Pack!

Can't These Guys Add?!

Well, I admit, the name threw me for a loop too, until it was explained to me. This collection was initially released right after System 6 came out, and everything in the package requires System 6, so . . . System 6, Six Pack. Get it?

Anyway, Six Pack is a collection of eighteen different programs. Actually, there's nineteen if you count IR, but Apple wrote that, not Quality. There are thirteen different Finder Extras: ButtonBar, CDev Alias, MoreInfo, HotKeys, SelectIcons, PrintCatalog, Crypt, FilePeeker, WorkSet, FileCompare, LaunchList, SizeUp, and XtraSounds. Also included are five NDA's: Alarm Clock, CPU Use, Memory Use, OpenSesame, and SuperDataPath. As I mentioned, IR is also included, bringing the grand total to nineteen. (Maybe Quality is using Klingon math to name their products, but you have to concede that "Nineteen Pack" would sound a bit silly.)

I'd Like to Teach the World to Install . . .

Installation of the package is straightforward and efficient. The IIGS Installer software is included, along with options to install all the Six Pack utilities at once, or individually. A file is included (Six.Pack.Notes) which includes any last minute revisions or additions (which, in my case, included four new programs not covered in the manual).

Be Young, Have Fun, Read the Manual!

Speaking of the manual, it's a fine little 51-page tome penned by Jerry Kindall, senior editor of *II Alive*. It's very descriptive, and covers how to install and use Six Pack's stuff very effectively, and includes tips on how to use Six Pack's components to their fullest advantage. Also included is an addendum sheet to

cover the four newest programs, ButtonBar, XtraSounds, SizeUp, and LaunchList. These four were added to Six Pack after the manual was printed.

Well, without further adieu, let's plunge in and see what Six Pack is made of!

Alarm Clock

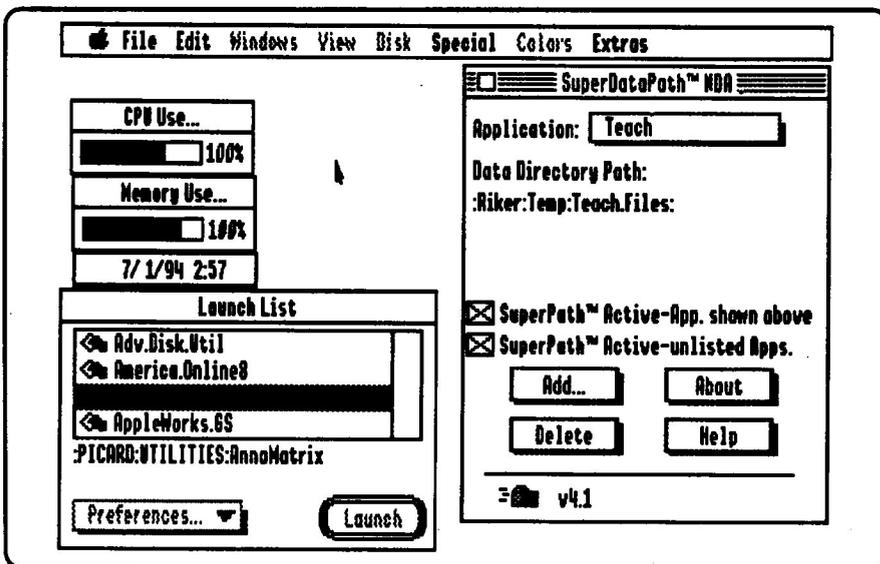
This NDA is an updated version of a shareware product. Alarm Clock allows you to set up your IIGS to notify you when it's time to do something (like get out of bed, or get that review e-mailed so the \$%&%#*\$ editor will get off your back . . . hypothetically speaking, of course). With Alarm Clock, you can also set the IIGS to sound off at the top of the hour with an hourly chime feature.

I like this NDA, but it could be better. My main gripe concerns the fact that your choice of sounds for the alarm and chime are limited to the internal sounds (a buzzer for the alarm, and a hideously atonal sound for the hourly chime), or the sound you have defined for "Attention" in the Sound Control Panel. It would be a lot nicer if you were given the ability to manually choose the sound you want to hear—perhaps by manually selecting a file in your *:System:Sounds folder without worrying with the Sound control panel.

Another annoyance is that when the Alarm goes off, it sounds once. This is fine if you're sitting in front of your IIGS when it goes off, but what if you're in the kitchen getting a drink? What if you set it so it can wake you and you're a heavy sleeper? I think an option should be added to repeat the Alarm until it's manually shut off. Not everyone would use it, but it would add versatility.

CDev Alias

This Finder Extra will be a godsend for those of you who are constantly fiddling with one particular control panel, and are sick to death of having to first open the Control Panel NDA every bloody time. CDev Alias allows you to create a small NDA whose only job is to open a selected control panel directly—such as the Sound control panel, for example. This one is a keeper, but I'm also enamored with the idea of Super Menu Pack from Seven Hills. I'm told Super Menu Pack gives you the ability to make the Control Panels NDA hierarchic. And, lest I forget, there's always our own Quick DA (last seen in *GS+ V4.N1*), which gives you the ability to open an NDA, CDA, or control panel with a single keystroke.



CPU & Memory Use

These are two small NDA's that are amusing and mildly useful at times. Both present small thermometers which give you an idea of how busy the CPU is, or how much of your memory is in use at a given time. This can be useful in determining if it's time to get that Zip GS, or throw some more memory on your card. As the manual says, these measurements aren't precise, just kind of like the fuel gauge on your car. For most cars, (except my grandmother's Cadillac), it won't tell you how many gallons of fuel are left, just whether it's close to empty. CPU Use works by asking the system to update the thermometer every half-second, then measuring how long it really takes to do this. Thus, you don't see precisely how busy your IIGS is, just how busy it was in the past second or two.

For me, it's a little surprising to see that the Finder demands about 70% of the CPU's capacity just sitting there. To me, that's like sitting in a car at a stoplight with the tachometer at about 5000 RPM. That's because when the Finder isn't busy with stuff you're telling it to do, it's constantly polling your 3.5-inch drives to make sure a disk hasn't been inserted or ejected. [Editor's Note: Not to mention that it is constantly broadcasting finderSaysIdle messages to all of the Finder extensions that are installed in your system.]

Crypt

No, this Finder Extra isn't a game about the burial chambers of long dead rulers of ancient Egypt. Crypt allows you to make sure your important documents (such as that love letter to Michelle, or the hate

mail you're preparing to send your editor anonymously) stay safe from prying eyes.

Crypt is easy to use. From the Finder, you select a file or group of files you want to encrypt, then select "Encrypt" from your Extras menu. You provide a key (sort of like a password), then specify where to save the encrypted version of the file. Crypt then does the rest. Decrypting a file is just as easy.

This is a nifty little utility, although it's a little weird that the encrypted file is stored as an Archival library (the same filetype as a ShrinkIt archive, though with a different auxiliary type). I doubt it would make the CIA break a sweat to decode a file scrambled by Crypt, but it should provide sufficient security for those who feel they need it. (Besides, if the CIA's on your case, you're gonna need a lot more help than this!)

File Compare

This Finder extension is gonna be a permanent fixture on a lot of hard drives of people who buy Six Pack. Ever run into two files on your hard drive which seem identical to the Finder? Same date, same size, etc? With this Finder extension, you can find out if they really are identical.

From the Finder, just highlight the files you want to compare. (You can also call up File Compare from your Extras menu and have it look for one or both files you want to compare.) The program then goes to work, looking at the file information for the two files, and their resource and data forks. If it spots a discrepancy, it shows you the difference in a hex/ASCII screen.

This one's a keeper. Finally I know which file is the latest revision of this review!

FilePeeker

This is another one that'll be in my Extras menu from now on. FilePeeker is a wonderful little Finder extension that can open up most anything, and let you take a look (or listen, if applicable). It ain't fancy—if you peek in a word processing document, you'll see just the text, without formatting, and graphic files aren't shown with their correct palettes 95% of the time. But it's a lot quicker to peek and get a quick-n-dirty idea of what's in a file rather than launch Platinum Paint, or AppleWorks, etc. It's even (horrors!) faster and easier to peek at a text (or Teach) file than to wait for EGOed to get going. And a really nice touch is the ability to peek in a ShrinkIt archive and see (vaguely) the files stored inside.

But, it's not perfect. Some files that FilePeeker should recognize are instead presented in a hex/ASCII screen (which is the default when FilePeeker doesn't know what to do with the file). The only sound format recognized is an rSoundSample, and these seem to be played back at a default rate of 22KHz, which makes any 11KHz rSounds you have sound like the IIGS has been sucking helium. But all things considered, FilePeeker's good points far outweigh the bad. When I go through and clean all the junk out of my hard drive (which, at this pace, will be right after I clean up my apartment by myself, or get elected Pope), FilePeeker will be my most valuable tool.

HotKeys

A godsend for extended keyboard users (at

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least, those who don't have the repeating key problem I discussed in my Apple Extended Keyboard review in *GS+* V5.N3). HotKeys will be a nifty little add-on for those with regular keyboards, too. HotKeys lets you assign functions to keys which normally would sit idle while you work in the Finder, like most of the keypad, and function keys. HotKeys allows you to set keys to launch an application, open a preset folder (or any of several folders inside your System folder), or—and this is nice—assign keys to instantly bring up other Six Pack features, like ButtonBar, or MoreInfo.

A nice idea, but I find myself preferring ShortCuts from SoftDisk G-S (written by Nathan Mates, and last seen on SoftDisk G-S #46). ShortCuts allows you to use *any* key combo instead of just the keypad, and F5-F12, which HotKeys limits you to. One gripe I have with HotKeys concerns the fact that the only way to see your key assignments is to go thru the entire list (via a pop-up menu) to see what keys have an assignment. But each program will let you do something that the other won't, so maybe having both installed wouldn't be a bad idea. (Just don't assign different functions to the same key with the two!)

IR & OpenSesame

For those who have no idea what IR is, I'll explain briefly. IR (pronounced "ear," or as the manual says, like the Spanish verb "to go") is a wonderful little utility that allows you to quickly install NDA's, CDA's, etc.—anything that you would normally need to reboot to install. With IR and a utility like INTPicker or BootMaster, system conflicts become (in theory) a thing of the past. OpenSesame takes a good thing and makes it better by giving you the ability to select and install

a system file from *any* application, not just the Finder. OpenSesame can also work with other Finder extensions like FilePeeker while outside the Finder, but there's a catch—the Finder extension in question must be in your System.Setup folder, which means less memory for your applications. (Getting technical here: Finder extensions can be in either the FinderExtras or System.Setup folders. If they're in System.Setup, they stay in memory all the time. This gets you into Finder more quickly, but eats memory outside the Finder. If they're in the Finder.Extras folder, they are only in memory while Finder is running, but they have to be loaded every time you quit a program and come back to Finder.)

OpenSesame seems like a good idea, but in practice it didn't fly. Every time I tried to open a desk accessory thru the IR/OpenSesame combo, I got a dialog box telling me "The System is too busy at this time to handle this request." Well, I never! Why, back in my day, computers did what we told 'em to, or crashed trying. They weren't uppity like this! Besides, what's it doing? My laundry?

MoreInfo

This former shareware program is the Finder's "Icon Info" command on steroids. Not only does it provide more information than the regular Finder command (must be where they got that cool name), it also allows you to *change* that information if you wish. MoreInfo is invoked by either pressing the shift key as you select "Icon Info" from the Finder's Special menu, or pressing Command-shift-I after you have selected the file(s) you want MoreInfo on.

From MoreInfo, you can change a file's created or modified dates, its file type and

auxiliary type, and its access privileges (locked, unlocked, backup needed, etc.) There is also a Preferences dialog which allows you to access some of MoreInfo's most powerful features in your Extras menu. This way, you can go thru your System folder, select files you want to deactivate, and do it in one easy step.

MoreInfo was a good solid product as shareware, but the ability to add those commands to the Extras makes it even better.

Print Catalog

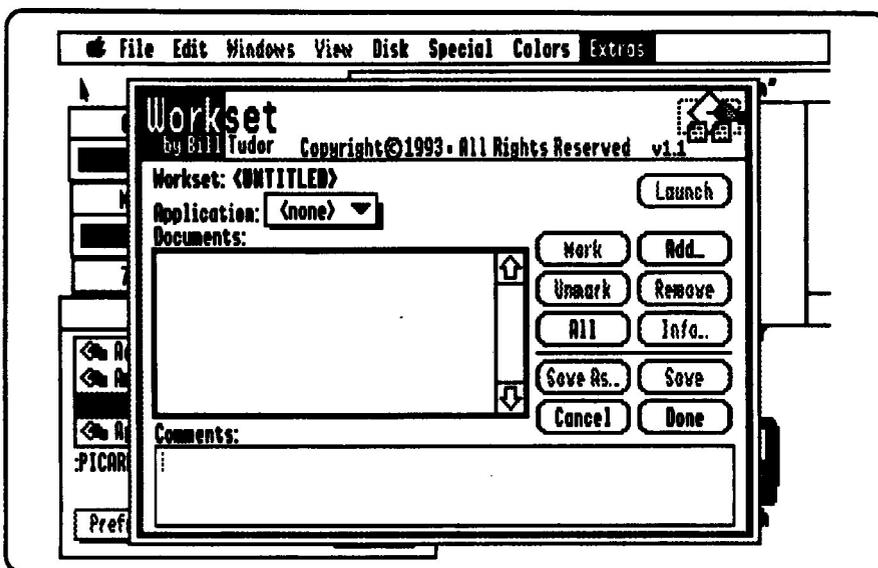
One thing that's cheesed me off for years is how you can select a disk or directory in the Mac's Finder, select Print, and get a directory on paper. A bigger annoyance is the fact that you can't do it in the IIGS Finder (the only reason the Print command is in the File menu is so Finder can hand off the printing of files to something like EGOed). Print Catalog fixes this oversight, allowing you to print any disk or folder's catalog to a printer, a text file on disk, or the Console (the text screen that sits "under" the IIGS graphic screen).

Nice work on the part of Bill Tudor, but I have plenty of gripes. Among them: Why can't I select an icon that I want a catalog of? Why do I have to open the directory I want to print? Why do the columns weave about drunkenly on the paper when you print to an ImageWriter II? Why isn't the text file made with tabs instead of spaces so you can import the text file more easily into other applications (a database is the first application that springs to mind), to reformat and print it from there? Tune into the next exciting edition of Six Pack for the answers to these and other questions!

SelectIcons

Have you ever decided that you wanted to kill all your old ShrinkIt archives on your drive that you've already unpacked (and backed up, I hope)? It's a pain in the rear to go through a directory and manually select them all, ain't it? Well, with SelectIcons, life just got sweeter. With this Finder extension, you can define your selection parameters, (such as in the above example, everything whose filename ends in ".SHK", and whose creation date is over a week old), then SelectIcons will go to work and take care of highlighting all the icons you want! This makes it a snap to move files to another folder or disk, or to kill them.

SelectIcons adds another command to your Extras menu, called FileSpec. Short for "file specification," this allows you to



find a specific filename, and it lets you use wildcards. This way, you can select all files that end in ".SHK", for example, by typing "*.SHK" in the FileSpec box.

Finally, SelectIcons can remember your selections. This is manna from heaven if you're copying the same files to a bunch of different disks.

This isn't going to be something you'll use every day, but you'll be damn glad to have it when you *do* need it.

SuperDataPath

This NDA works sort of like Kangaroo from Seven Hills Software. SuperDataPath (SDP for short) allows you to set a default folder for any 16-bit program. This is handy to set GS-ShrinkIt to always open your downloads folder, for example. SDP can also "remember" the last five folders you've worked in and jump to any of them instantly. The only pain is, you have to manually go and set up the "link" between the application and the folder you want to be the default folder. Although inconvenient, you should only have to do this once.

From what I've seen, SDP isn't as powerful or versatile as Kangaroo, but it's leaner and meaner—and all of Six Pack costs less than Kangaroo does.

WorkSet

A nifty idea, for the programs that support multiple document loading from the Finder (not all do). WorkSet allows you to create a file that tells your IIGS to load an application, and/or a set of files. Think of it as a "group alias." (Actually, a WorkSet can consist of a single file, so it can be a regular alias, too.) This is a nifty idea that can create almost limitless possibilities. For example, you can set up a WorkSet of all your System files (NDA's, CDA's, control panels, etc.) that you only use rarely. Double-click on it, and IR takes care of opening them up for you!

In my humble opinion, WorkSet is one of the best reasons for owning Six Pack. In fact, this just might be worth the money all by itself.

ButtonBar

This one's a really cool idea. ButtonBar does just what it says. (I love programs named in a no-nonsense manner!) A small bar appears on your screen (you get to decide where, and how big it is) which is full of . . . buttons! Many Finder functions can be defined, including almost all the functions under the Finder's various menus. Many of Six Pack's

functions can have buttons assigned to them, making them even easier to access.

This is a nice program, but I don't like how it covers up part of the screen, which can cover up parts of Finder windows (if you set the ButtonBar so that it's right below the menubar), leaving you with little or no control. The best way I've found to use this program is to define a HotKey to hide and show ButtonBar in a flash. This keeps it handy if you need it, and off your screen real estate if you don't. But I can tell you now what your biggest problem will be while using ButtonBar—remembering what all the icons stand for!

LaunchList

LaunchList allows you to keep a list of your applications handy, then launch them with a single keystroke. LaunchList can scan thru all online volumes (useful if your hard drive has six partitions, like mine), and automatically build the LaunchList. I only wish you could set it to filter out self-extracting archives files automatically. They're put in the list because GS/OS sees them as programs (which they are), but do you launch a self-extracting archive every day?

Users of larger hard drives who are tired of slogging through thirteen nested folders just to launch an infrequently used program will really like this one—I know I do.

SizeUp

Just like PrintCatalog, this fixes something in the IIGS Finder that the Mac Finder does automatically. Don't you just *hate* it when you select some files for Finder to copy, and then, when it's almost finished, you get a dialog saying "The disk is full. This operation can't be completed"? Well, so do I—especially since the Mac Finder always checks the available space on the destination drive *before* it starts copying, like it should be done. SizeUp will help.

The most useful trait of this program is that it will check the space on your destination drive to see if a copy can be performed. If there isn't room, SizeUp jumps in and tells you so, before the Finder starts copying. (Another cool thing I've noticed: If you have the freeware "Makin' Copies" init by Brian Pietrzak, it plays its sound *after* SizeUp has decided that there's enough room. So if you hear your IIGS say "Makin' Copies!", you'll know you have room.)

Besides fixing that little Finder oversight, SizeUp also allows you to get an idea of the size of any file (or files) you've

highlighted. By simply selecting "Selection Size..." from the Extras menu, you get a box telling you the size in both bytes and approximate kilobyte size on disk (this is actually the block count, but it shows it as "K" because that's the way the Finder does it). I really like having this one around. Now I can use SizeUp for all my copy-to-floppy chores, and never get stuck with eight files that have to be on the same disk, with room for only seven of them. Well, I'll still be stuck, but I'll know about it that much sooner.

XtraSounds

This Finder extension adds over thirty new events to which sounds can be assigned. All of them are for Finder functions—things such as copying files, Get Info, etc. Programmers and other curious folk can set sounds to play when the events FinderSaysHello and FinderSaysGoodbye happen—kinda like startup and shutdown sounds for the Finder.

I found this one to be just annoying most of the time. Adding Hello and Goodbye sounds for Finder seemingly doubled the time it takes to get into or out of Finder. And if you assign a sound for Copy or Rename, it plays the sound once *for each file!* Copy about thirty files and see if this doesn't get on your nerves, too.

The Choice of a IIGS Generation

After getting to spend some quality time (pun intended) with these programs, I've found quite a few of them to be very useful, and a couple of them have become just plain indispensable. Not everything in this package will be used everyday, but Bill Tudor and Quality Computers have hit more often than they missed with this package. My only complaint now is how long it takes to launch the Finder with all this useful stuff installed. (I almost have time to go get a glass of tea while waiting between programs, and I can go *brew* tea while waiting for my IIGS to start up). Overall, though, this package is a winner. When you add it up, you're paying less than two bucks a program—far less than you'd pay if all this stuff was still shareware, and you get updates and tech support from Quality Computers to boot. If you want to work smarter at your IIGS, go get a Six Pack—not from the corner 7-Eleven, but from Quality Computers. GS+

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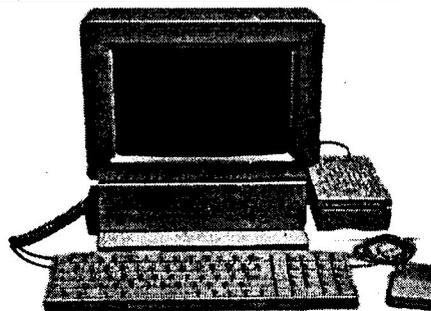
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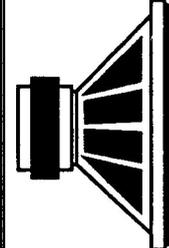
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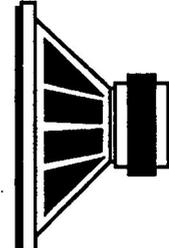
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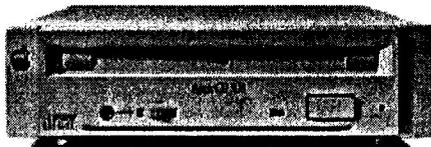


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The Tinies

IIGS version by Brutal Deluxe

Freeware

Download time (at 2400 baud):
Approximately 55 minutes
Requires System Software v5.0 or later
and uses 380K RAM in memory.
Installation on a hard disk requires
approximately 793K of space. AppleTalk
must be disabled. Not compatible with
The Manager v1.0.

Kalisto

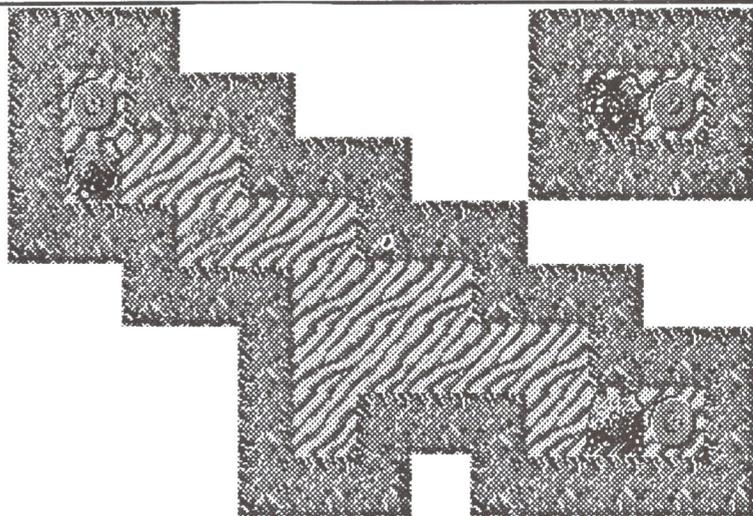
Atreid Concept c. 1992

Reviewed by Pär South

Ported to the IIGS by Brutal Deluxe, "The Tinies" is a 3200-color strategy/arcade game about small furry creatures traveling through space—imagine tribbles from Star Trek, but with an attitude—whose goal is to offload on the planet Earth. Your mission is to go room by room in their spaceship and herd them back into their color-coded cubicles (sleepers) for a little down time. Put the snooze on all the tinies, in the allotted time, and you are rewarded with another level of recalcitrant little ones; run out, and you get the "tinies-eat-the-Earth" screen. Oh, and did I tell you this game is very professional looking?

Oh, Come On . . .

Professional? That's because it is. Next time you have the opportunity to check



Time: 00:16 Level: 04 Lives: 00 Jokers: 00

out a Mac software catalog, or the games section of a computer store, look for it. I've seen it for about thirty dollars (of course, you might really like having a box and shrink wrapping). But, this IIGS version is free. Apparently, Brutal Deluxe was able to work out a deal with the Kalisto people though the original publisher maintains all the rights. Even the Kalisto trademark screen is preserved. Is the IIGS great, or what?

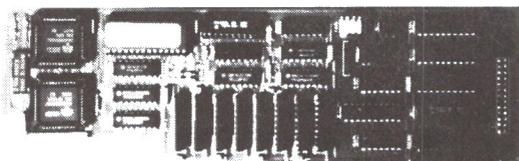
On To The Game

The player has a tinies controller (a red square) which, via user-definable keys, he uses to select a tiny. He is now yours to direct. There is no joystick option, but

the keyboard works fine. The catch is this: Once you tell your tiny to go a certain direction, he keeps going straight until he reaches a barrier. And if his sleeper is not conveniently located next to a wall, you've got to think of something. Have a spare tiny that has nothing better to do? Use him as a blocker!

Just when you get used to stacking tinies to get one into its color-coded sleeper, you are introduced to teleporters (more like sink holes, the little guys get sucked in and squirted out in another place); punchers, that whack your misfit back in the direction he came from; switches that activate sleepers (tricky); color-coded

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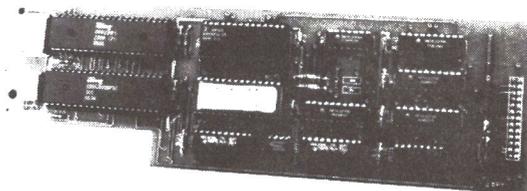


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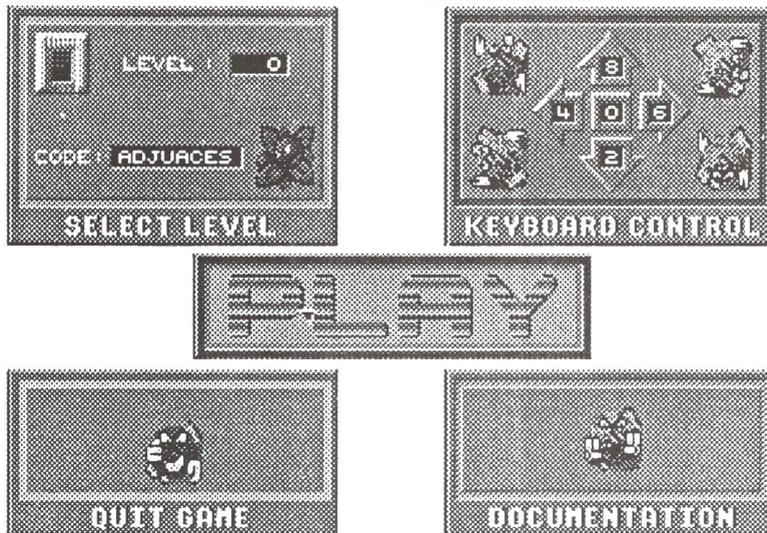
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doors, and bombs. Obstacles like this keep this game from getting stale. You can overcome these problems by gathering swatches for more time, jokers (that look like a breath mint) for bomb insurance, and hearts that add a life. Different levels can be accessed by password, and after a few successful and ever-changing game screens you are rewarded with full-color tinies pictures for an interlude.

Online game documentation includes the back story about why tinies are nasty and heading for Earth. Amusing, but not necessary for game play. The obstacles are pictured and their names are given. Nice, but not essential. The docs also assert that the game uses 3200 colors—but this is only true for the “intermission” screens. The actual game screens are in 320 mode.

Patches and More Patches

When I originally downloaded this game,

there was a separate file—a patch—that would turn off the background music and allow you to substitute your own. My version has no background music at all, but there must be a version out there somewhere that has music. There are sounds in this game, among them a great crashing noise complete with animation when you bang your poor tiny into a wall. It's definitely a great frustration reliever, believe me.

I found another file that patches a bug in the program that does not allow you to get past level 87. This patch is not for the faint of heart, because it involves typing in the instructions while in AppleSoft BASIC. Generally, patches indicate that there are problems with a program, but with the exception of the level 87 bug, the game is fine just as it is. What these patches do suggest however, is that people like this game enough to want to make it better.

Those flaws aside, there is one other annoyance: AppleTalk has to be disabled for this game to run. That means rebooting if you have your IIGS configured for file sharing or a net printer. And, incidentally, The Manager is currently incompatible.

Does it Show?

Yes, I like this game a lot. The “z's” coming out of their heads, once a tiny is tucked in, are worth the download. And there are animations a-plenty. Usually I'm not one for cute games, but this one has enough sass and challenge to keep me interested. A few might find some levels too easy and go through a couple quickly before being temporarily stumped. I happen to like that, and with a hundred levels you will find your stumper soon enough. Remember, aside from the download time, this game is free. Show it to your Mac buddies. **GS+**

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Clip On

By Josef W. Wankerl

I was sitting at my desk in my new office trying to debug the Copy function of the Sun Dial new desk accessory. What I needed was a way to view the contents of the clipboard. Not being in the Finder, I broke into Nifty List and issued the ShowClipboard tool call which was introduced with System 6.0.1. Gears started turning in my head and before long, I had written a simple new desk accessory whose sole purpose is to show the system clipboard window. All you have to do to take advantage of Clip On is to install it using the Installer program supplied on your GS+ Disk and then choose the Clip On item from the Apple menu.

The Source Code

Of all the programs ever published in GS+ Magazine, I think that Clip On has the distinction of being the absolute shortest. In fact, contained in Figure 1 is the complete source code to Clip On. (There is a bit of Rez source code, too, but all it does is add some `rVersion` and `rComment` informational resources—the resource fork is not used in

any way by the new desk accessory.) I chose to write Clip On in assembly language simply to keep it as small as possible. Since all that needed to be done was to make the ShowClipboard call, avoiding the overhead that a high level language adds to a new desk accessory was very favorable.

Taking a quick look at the source code, you can see that all of the work is done in the new desk accessory open procedure. The ShowClipboard call is made to open the system clipboard window and a NULL window pointer is returned from the open procedure to tell the Desk Manager that no window was actually opened. Note that the clipboard window should *not* be returned from the Clip On open procedure because the Scrap Manager has already made the system clipboard window a system window and performs all the management functions for that window. And, since a NULL window pointer is returned, if Clip On is chosen from the Apple menu while the system clipboard window is already open, the ShowClipboard call simply brings the

system clipboard window to the front, which is the desired action for choosing a new desk accessory item from the Apple menu while its window is already open.

If you take a careful look at the source code, you'll see that the close, action, and init procedures are the same in that they just perform a RTL instruction. The reasons for this are:

- Since no window was opened in the open procedure, none can be closed.
- Since no window was opened in the open procedure, no actions can be performed on it.
- No initialization needs to be done to support the system clipboard window.

Clip Off

That's everything to Clip On. Being able to see the system clipboard window from *any* application is one of the more convenient abilities I've ever added to my IIGS and I hope you'll like it as well. GS+



Joe Pretends to be Busy in Our New Office.

Figure 1

Clip On Source Code

```

* == Clip On ----- *
ClipOn      DATA

        dc i4'NDAOpen'          ;Pointer to open procedure
        dc i4'NDAClose'        ;Pointer to close procedure
        dc i4'NDAAction'       ;Pointer to action procedure
        dc i4'NDAInit'         ;Pointer to initialization procedure
        dc i2'$FFFF'           ;Period (never call)
        dc i2'everyEvent'      ;Event mask (every event)
        dc c' '                 ;Name header
        dc c'Clip On'          ;NDA name
        dc c'\H'                ;Name trailer
        ds 2                     ;NDA ID number
        dc h'00'                ;Name terminator

        END

* == NDA Open ===== *
NDAOpen     START

        Name NDAOpen

        pha                     ;Result space
        pha                     ;Result space
        PushWord #$8000          ;Prepare to open clipboard window
        PushLong #$00000000     ;Give reserved value
        ShowClipboard           ;Open the clipboard window
        pla                     ;Discard clipboard window pointer low
        pla                     ;Discard clipboard window pointer high

        lda #$0000              ;Prepare to zero NDA window pointer
        sta <$04,s              ;Zero NDA window pointer low word
        sta <$06,s              ;Zero NDA window pointer high word

        rtl                     ;Return to caller

        END

* == NDA Close ----- *
* == NDA Action ----- *
* == NDA Init ----- *

NDAClose    START
NDAAction   ENTRY
NDAInit     ENTRY

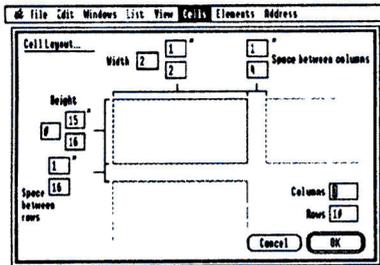
        Name NDAClose:NDAAction:NDAInit

        rtl                     ;Return to caller

        END

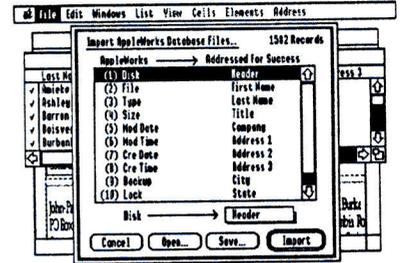
```

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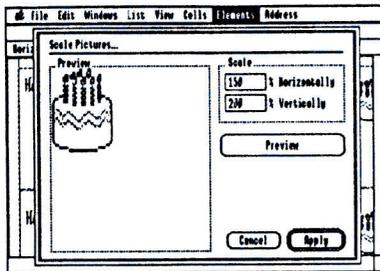
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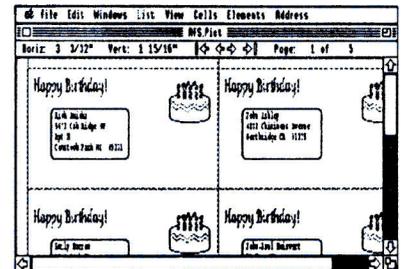
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Miscellaneous Library

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 information provided here is an overview of what's new in the Miscellaneous Library and does not provide complete documentation for all of its calls—if you plan to use the Miscellaneous Library, read the `MiscLib.Docs` file (which is on your *GS+* Disk) for complete information!]

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`, `ORCA/Pascal`, and `ORCA/Modula-2`. 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 `Figures` file. (This file is located in the `GSP.V5.N6.SEA` self-extracting archive that is on your *GS+* Disk.)

Contents First

Welcome once again to my "department" here in the magazine. Those of you who have been making the `TraverseNames` call in your programs may have noticed a subtle bug with using the `trContentsFirst` option in that the contents of a directory were being processed and then when the time came for the directory itself to be processed, the file type and auxiliary type for the directory were incorrectly set. This is because the `TraverseNames` call failed

to save and restore that information around processing the directory contents. This has now been fixed. (Note that all of the other traversing options had no problems.)

String Fixes

You may remember that a few `MiscLib` updates ago I changed the `ConvertString` routine so it properly handled converting to C strings and to zero-length text blocks. Well that change was great, but I failed to change similar code in the `AppendString` routine! I caught it this time, so now both `ConvertString` and `AppendString` work for C strings and zero-length text blocks. While I was making the changes to `AppendString`, I also took some time to break out some common code shared by a lot of the `String` routines into a subroutine which is not directly accessible from high level languages.

String Parts

I've put in a couple of new routines that deal with manipulating strings, namely `StringLength`, `RightString`, and `MidString` functions. The `StringLength` routine will return the number of characters in any type of string. The `RightString` routine will give you any number of characters from the right-hand side of a string. The `MidString` routine will give you any number of characters from any arbitrary position of a string. You may notice the absence of a `LeftString` routine which would give you any number of characters from the left-hand side of a string. This is simply because you can use the `MidString` routine in a similar

fashion—you just have to say you want to start at position zero in the string. For those of you who program in C, I've included a `LeftString` macro in the `MiscLib.H` header file which simply makes a `MidString` call supplying a zero for the starting character position.

Comparisons

The final new addition to `MiscLib` is the `StringCompare` routine. The `StringCompare` routine takes two strings of any type and compares them. You can compare strings ignoring case or you can compare then where case is significant. For case insensitive comparing, the `List Manager CompareString` call is actually made. The results from the `StringCompare` routine are the same as that from the `List Manager CompareString` call.

Figures 1 and 2 show the new `MiscLib` calls and a brief description of what each one does. For the specifics on how to use any of the Miscellaneous Library routines in your programs, break out the `MiscLib.Docs` and related files located in the `GSP.V5.N6.SEA` self-extracting archive on your *GS+* Disk.

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+*

Figure 1 The New Miscellaneous Library Calls

New Calls

`StringLength`
`MidString`
`RightString`
`StringCompare`

Description

Returns the length of any type of string
Returns an arbitrary range of characters from any position in a string
Returns any number of right-hand characters from a string
Compares two strings of any type

`LeftString`

A macro (only for C programmers) to return any number of left-hand characters from a string

Figure 2 Uncallable Support Routines

Support Routine

`LocateString`

Description

Returns a pointer to the first character in the string and its length when given a reference and a type

For the last issue, I wrote a program, More Sound, that would let you add additional sound types to the Sound control panel. Unbeknownst to me at the time, the More Sound program would become invaluable to me while programming the Sun Dial new desk accessory. Sun Dial uses some newly assigned sound codes and without More Sound to add them to the Sound Control panel I would have been in for a lot of headaches, especially when trying to tell a non-programmer how to do it. Figure 1 displays the sound tasks that Sun Dial uses. In the process of writing Sun Dial, I stumbled across a minor glitch in the original More Sound program: the Code LineEdit control didn't allow editing keystrokes in it. So, v1.0.1 of More Sound was quickly made up to enable the editing keystrokes. (A simple resource change was all that was needed.) Now, for those of you who may have missed the last issue, I'll present a run-down of how to use More Sound. First you'll want to install More Sound using the Installer program provided on your GS+ Disk, then follow along with this example.

Adding Sounds

Most likely you'll want to add new sound even types to your Sound control panel. So first, launch More Sound. Next, choose the Open menu item and locate your Sound control panel. A window will then appear which contains a list of all the sound types that your system knows about. To add a new sound, all you have to do is fill in the blanks at the bottom of the screen and click on the Add button. Let's take an in-depth look at how you actually do this. First, locate the sound type you want to add in Figure 1. Now type the sound's code in the Code LineEdit control, leaving off the

Figure 1 — Sun Dial Chime Types

<u>Code</u>	<u>Task</u>
\$10FC	Chime Hourly
\$10FD	Chime Quarter Past
\$10FE	Chime Half Past
\$10FF	Chime Quarter 'Til

“\$.” Next type the sound's task name in the Task LineEdit control. Now click on the Add button to add the sound to the list of sounds. It's that easy.

Removal

More Sound can also remove sounds from the list. If you never use a particular sound type, you can customize your Sound control panel to only have the sounds you frequently use. To remove a sound type, select it in the list of sounds and then click on the Remove button. (Note that if you have a sound associated with the type you are removing, it's probably best if you use the Sound control panel to remove the assignment *before* you remove the sound type. Otherwise, you'll be left with a sound attached to the task you removed and the Sound control panel can never remove the assignment because the type has been removed from the Sound control panel. The assignment is still valid, though, since assignments are independent of the known sounds. The only way to remove the assignment would be to add the sound task back and then remove it.)

Updating

More Sound will let you update the information on existing sound types. The primary function of updating is to let you change a new sound type that you may

have entered incorrectly. For example, if you typed the code for “Top Of The Hour” as “10CF” instead of “10FC”, you could select the Top Of The Hour task, change the code to “10FC”, and click on the Update button to fix your initial mistake. You can also update some of the other pre-defined sound types. Most likely, you'll change the name of the task. For example, you could change the “Empty trash” sound task name to “Empty recycle bin.”

Playing

The final button that I haven't talked about is the Play button. When you select a task, you can listen to the sound which has been assigned to it by clicking on the Play button. You can't change the assignment with More Sound (that's what the Sound control panel is for), but you *can* listen to what has been assigned already to see if you like it.

That's pretty much all there is to using More Sound. For those wishing to delve into the depths of More Sound's inner workings, the source code is on your GS+ Disk. If you have any problems 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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Sun Dial is a direct result of our moving into a new office. In Diz's basement, there was this charismatic clock on the wall which I could periodically peer at to see if it was time for lunch or time to go home. When we first moved into the new offices, I kept looking around my office for some indication of the time. Alas, there was none. So, the idea was born to make a clock that would be displayed on the IIGS. I've seen programs that throw the time up in the menu bar, but those programs never excited me because of the fact that the menu bar is off limits to anything but an application program. So, of course, the next logical action was to place the clock in a new desk accessory window. That too has its drawbacks in that screen real estate is very costly, and the overhead of having a title bar on the window plus the contents of the window is ugly. So I compromised: I put the time in the title bar of a new desk accessory window and just left the window empty. The result was more beautiful than I had ever imagined, and Sun Dial was born.

Zoooooom!

Sun Dial has quite a few options which you can see if you click on the zoom box of the Sun Dial window. Clicking on the zoom box toggles the showing of the Sun Dial options, so if you're looking at the options and you'd rather only see the

time, just click on the zoom box again. Most of the options are self-explanatory, but for those of you who like completeness, here's a thorough and complete run-down of what each option does:

- **Remember Open Status** — This check box controls whether or not Sun Dial remembers its open state. If you have this option unchecked, every time you launch a new application you'll have to open Sun Dial by choosing it from the Apple menu (or by using its Command-key equivalent, which is discussed in the "Key Notes" section below). If you have this option checked, Sun Dial will remember whether or not you have it open when you switch applications. If you had Sun Dial open when you switched applications, when the new application starts up, Sun Dial will automatically open itself again. (Note that the window position and zoom state of Sun Dial are always remembered even if this option is turned off.)

- **Show AM/PM** — This check box controls whether or not Sun Dial displays "AM" or "PM" with the time in 12 hour mode. If you have your IIGS set to display 24 hour time, this setting is ignored. You can switch between 12 and 24 hour time displays using the Time control panel.

- **Show Seconds** — This check box controls whether or not Sun Dial displays the current seconds with the time. If you don't like to see a lot of activity on your desktop, you can turn showing the seconds off so the clock will update the time once every minute instead of every second.

- **Momentarily Display Date** — This check box controls whether or not Sun Dial temporarily displays the date and day of the week. If this check box is turned on and you request Sun Dial to display something other than the time (displaying the date and day of the week is discussed in the "Title Bar Tricks" section below) then Sun Dial will only show the display for three seconds and then switch back to displaying the time. If this check box is unchecked, Sun Dial will continue displaying the date or day of the week until you tell Sun Dial to display something else.

- **Chimes Active** — This check box controls whether or not Sun Dial will chime (play a sound) on quarter hour intervals. Using the Sound control panel, you can assign sounds that will be played at the top of the hour, at a quarter past the hour, at half past the hour, and at a quarter 'til the hour. If you leave a sound unassigned, no sound will be played at that time. For a description of the sound assignments, see the "Chime Sounds" sidebar.

- **On Hour, Chime Hour Times** — At the top of the hour, you can have Sun Dial chime as many times as the current hour by checking this box. This means that if it's three o'clock, Sun Dial will play the top of the hour sound three times. If you turn on this check box, it's usually a good idea to make sure that you have a relatively short sound assigned to the top of the hour chime.

- **Chime When Not Open** — This check box controls whether or not Sun Dial will chime when it's not open. If you have this check box turned on, Sun Dial will chime even if you don't have the Sun Dial window open. If you have this check box turned off, Sun Dial will only chime when its window is open.

- **Appear** — This pop-up menu lets you tell Sun Dial to open itself (only if it was previously closed) at specific intervals. You can set Sun Dial to never appear, or you can set it to appear on 1 minute, 5 minute, 10 minute, 15 minute, 30

Chime Sounds

To assign chime sounds for Sun Dial you have to use the Sound control panel. Apple has assigned four new sound task types that Sun Dial uses, and before you can assign them, you have to add them to your Sound control panel. The four sound tasks assigned are "Chime Hourly," "Chime Quarter Past," "Chime Half Past," and "Chime Quarter 'Til." In this issue, there's an update to the More Sound application which lets you assign new sound tasks to the Sound control panel. For a description of how More Sound works, see the "More Sound" article elsewhere in this issue. The More Sound article contains the relevant information on how to add these new tasks to your Sound control panel. There are six custom sounds provided for you on your GS+ Disk (thanks to our lovely/sexy Michelle) that you can use as your chimes. There are four main sounds ("Top Of The Hour," "Quarter Past," "Half Past," and "Quarter 'Til") and two alternate sounds ("Half Way There" and a short "Hour" sound in case the "Top Of The Hour" sound is a bit long for your liking). To use the sounds, simply install them using the Installer program, then assign them using the Sound control panel.

minute, or 1 hour intervals. Note that intervals means that the time is a multiple of the number of minutes you have selected. For example, if you have a five minute interval selected, Sun Dial will appear only when the right-most digit of the minute is 0 or 5. Likewise, if you have a 15 minute interval set, Sun Dial will only appear at the top of the hour, a quarter past the hour, half past the hour, and a quarter 'til the hour.

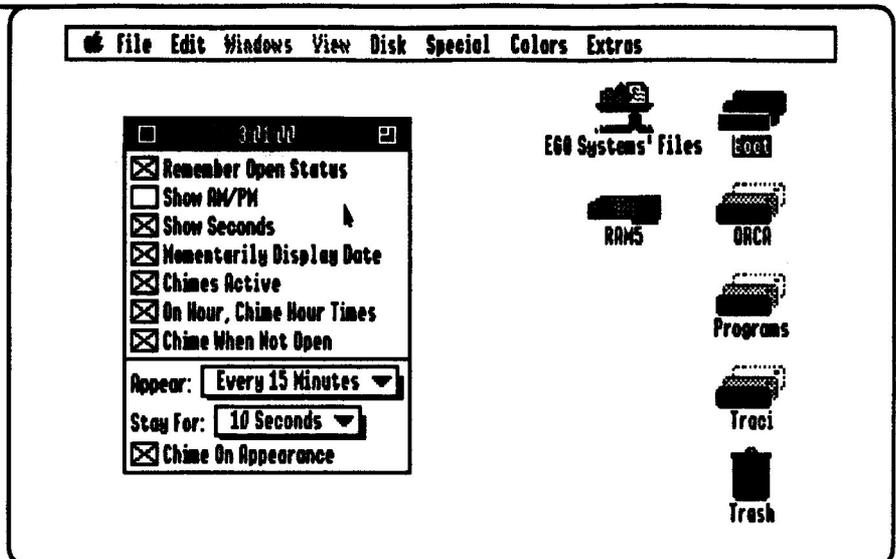
- **Stay For** — This pop-up menu lets you tell Sun Dial how long to stay open when it is automatically opened because the time interval specified in the Appear pop-up menu has elapsed. You can set a 3, 5, 10, or 15 second time for Sun Dial to remain open. After the time interval has passed, Sun Dial will automatically close itself. (Sun Dial will then automatically re-open itself at the next "Appear" interval, of course.)

- **Chime On Appearance** — This check box controls whether or not Sun Dial will chime when the time interval that is specified in the Appear pop-up menu has elapsed and Sun Dial is automatically opened. This setting is independent of the Chimes Active setting, so that you can have normal chimes turned off and have Sun Dial chime only when it is automatically opened. The chime that is played when Sun Dial automatically opens is the top of the hour chime. Note that if you have the Chimes Active setting turned on, and Sun Dial opens on any quarter hour mark, the appropriate chime for the quarter mark will be played instead of the automatically opening chime.

Title Bar Tricks

There are two really cool tricks you can do with the Sun Dial window's title bar. (These tricks work even if the Sun Dial window is not the frontmost window!) The first is that you can hold down the option key and click on the time display. What will happen next is that Sun Dial will automatically reposition itself in a screen corner. The first corner Sun Dial jumps to is the top left-hand corner. If Sun Dial is already in that corner and you option-click in the drag region of the title bar, Sun Dial will jump to the bottom left-hand corner. Next comes a jump to the bottom right-hand corner, then a jump to the top right-hand corner, and then finally a jump back to the top left-hand corner.

The second really cool trick you can do is to hold down the control key and click on the time display. Sun Dial will then change its title display. If the time was showing, the display will switch to the



date. If the date was showing, the display will switch to the day of the week. If the day of the week was showing, then the display will switch back to the time. Note that if you happen to have the Momentarily Display Date option turned on, then the alternate display will only last for three seconds before switching back to the time.

A third cool trick, which you can do to any window at all times from within any properly written desktop program, is to hold down the Command key and then click and drag in the title bar of a non-frontmost window. What will happen is that the window will drag, but it will remain in the background.

Key Notes

Sun Dial also has a couple of nifty additional features built-in that you can take advantage of. To use these features all you have to do is press a key. For all of the functions (except the last one) the Sun Dial window must be the frontmost window in order for the keystroke to be recognized. Outlined below are the keys that Sun Dial recognizes and the actions that they perform:

- **? or /** — This brings up the Sun Dial "About" window which will show you the current version of Sun Dial.

- **Command-C** — This copies the current time to the clipboard. You can also copy the current time to the clipboard by choosing the standard Copy menu item from the system menu bar. You can then paste the time into any program that supports the clipboard.

- **tab** — This sends the Sun Dial window behind all of the other windows on the desktop.

- **escape** (labeled `esc` on the keyboard) — This temporarily hides the Sun Dial window for five seconds and then shows the window again. This (and the previous) keystroke is useful if you want to issue a Command-key sequence to the host application but the Sun Dial window is frontmost and will steal the keystrokes.

- **Command-escape** — This is the only key sequence which works when Sun Dial is not the frontmost window. It opens Sun Dial if it wasn't previously open, or if it was previously open, makes it the front window on the desktop. This key sequence will only work when the system menu bar is active. For example, if you have EGOed lite open, its menu bar is active, not the system menu bar, so this key sequence won't work. Also, if the host application uses the Command-escape sequence for something special, the application defined function for the keypress will be used instead of opening Sun Dial or bringing it to the front.

Sun Dial was an extremely fun program to write, and I hope it is useful for you. For those technically inclined, the source code is heavily commented so you should be able to make out exactly what's going on. See you next time . . . GS+

What To Do

By Josef W. Wankerl

After I had completed the "Working With the Toolbox" sample program for our last issue, I had an almost completely functional "to-do list" type of program. The only thing it didn't do is load and save the to-do list. Diz took a look at the program and said that it would make a good new desk accessory. I thought so too, so as soon as I got some free time, I set out to transform the program into a new desk accessory. Before long, I had a working to-do desk accessory. However, it is a bit different than the example program that it was based on. So, let's take a look at what's new, and what it can do.

Categories Display

When you first open What To Do, you'll be presented with the to-do list categories display. What To Do can manage a variety of to-do lists at the same time. The pop-up menu at the top of the window lets you choose from different to-do lists or the main categories display. The categories display is shown when you choose the italic *Categories* item from the top of the pop-up menu.

To add a new to-do category, simply type a name for the category in the LineEdit control and click on the Add button. You can remove a category completely by selecting the category in the list and clicking on the Remove button. If you want to rename a category, select the category in the list, type a new name for it in the LineEdit control, and click on the Update button.

Changing Categories

Once you have a to-do category set up, you can view the items in the to-do

category by choosing it from the pop-up menu. You can also select the item from the categories list and press the Return key (or Command-O) or double-click on the category. You can move backwards and forward through the categories by typing Command-< and Command->.

Managing A To-Do List

The first thing you'll want to do is to add a couple of items to your new to-do list. To do this, type in the task you want to complete, select a priority for it, and then click on the Add button. If you need to change any part of the to-do item (it's name, priority, or done status) just select the item from the list, make the changes using the controls at the bottom of the window, and then click on the Update button. When you're completely through with an item, you can remove it from the to-do list by selecting the item in the list and clicking on the Remove button. You can also remove *all* the completed tasks in a category by holding down the option key and clicking on the Remove button.

You'll notice that the items in to-do lists are sorted based on their done status, their priority, and finally, the task name. Completed tasks will always come after uncompleted ones. Higher priority tasks will always come before lower priority tasks. This way, the most important things you need to do are always at the top of the list, in the most visible position.

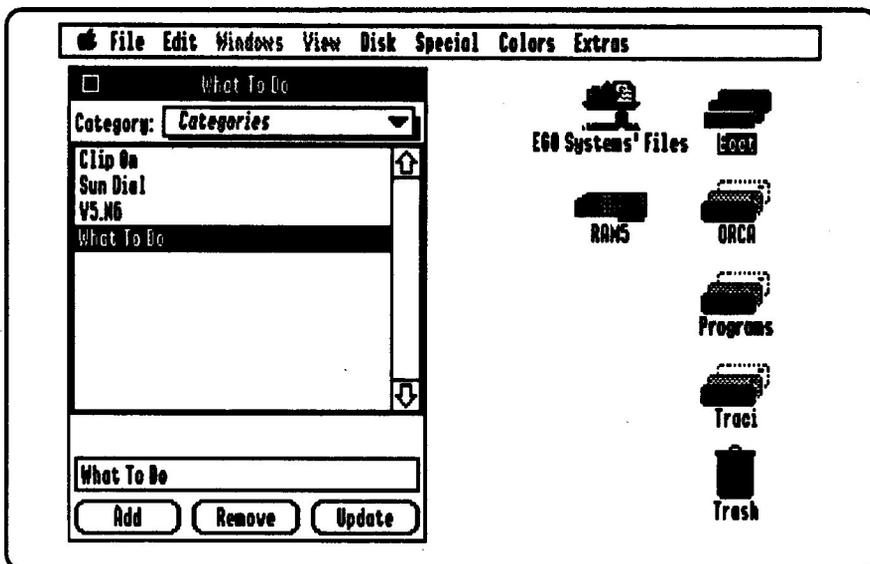
Example

Now that you know the basics behind how to operate What To Do, let's go through a simple example so you can get a better hands-on understanding. First,

install and open What To Do. Now let's add two new categories. First, type "Lunch" in the LineEdit control and then click on the Add button. Next, type "Diner" in the LineEdit control and then click on the Add button. Oops! I misspelled dinner. So, to correct this, select the "Diner" item from the list, type the extra "n" in the LineEdit control, and then click on the Update button to correctly set the name of the dinner category. You'll now have two to-do categories to choose from: Lunch and Dinner. Since lunch usually comes before dinner, let's work with that to-do category first. Choose the Lunch category from the pop-up menu, or choose the Lunch category in the list and press return. You'll then be taken to the Lunch to-do list.

Now... what do we want to do for lunch? How about we order a pizza? That sounds good to me. The first thing we need to do is to figure out what kind of pizza we want. So, type "Decide on pizza kind" in the LineEdit control, choose "High" priority, and then click on the Add button. We also need to dig around and find enough money to buy the pizza, so type "Find some money" in the LineEdit control, choose "High" priority, and then click on the Add button. We also need to order the pizza, so type "Order pizza" in the LineEdit control, choose "Medium" priority, and then click on the Add button. Once the pizza arrives, we need to pay the pizza delivery person, so type "Pay for pizza" in the LineEdit control, choose "Medium" priority, and then click on the Add button. Finally, we'll need to tip the delivery person, so type "Tip" in the LineEdit control, choose "Low" priority (so I'm a cheapskate), and then click on the Add button. OK! Now we've got a list of things to do so we can order pizza.

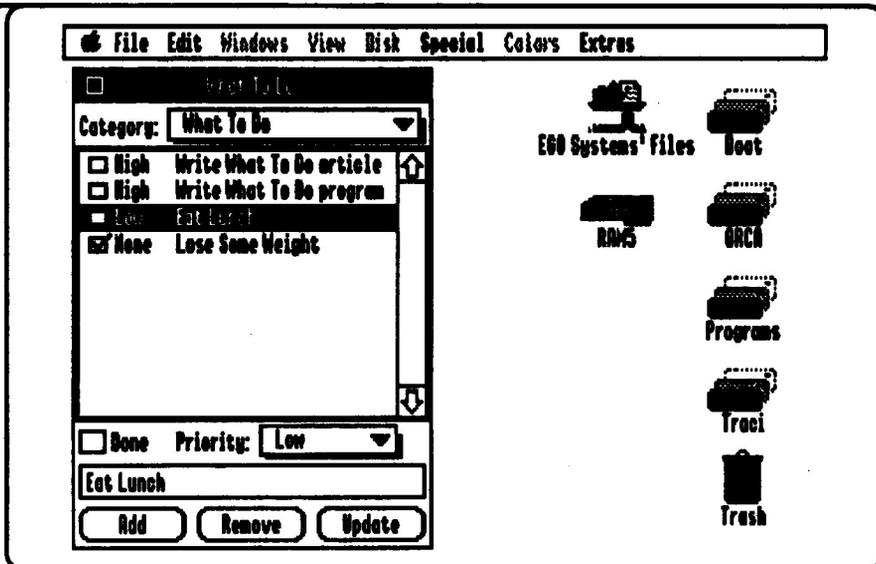
So, let's do a couple of these things. Let's find some money first. Found it? Good. Choose the "Find some money" item from the list, click on the Done check box, then click on the Update button. Now let's decide on the pizza kind. I think a nice pepperoni with extra cheese would be great. Double-click on the "Decide on pizza kind" item—this is a shortcut for selecting the item, clicking on the Done check box, and clicking on the Update button. The item at the top of our list should now be "Order pizza," so let's place our order and then check off that item. It looks like we've got a bit of time to kill now while the pizza gets made and



delivered, so let's take some time out to plan our dinner activities.

Choose the "Dinner" item from the pop-up menu to bring up the dinner to-do list. I think that for dinner, we'll con Michelle into making us some lasagna. So, add "Invite ourselves for lasagna" as high priority. It's always nice to keep the host happy, so add "Bring a nice gift" as medium priority. Lastly, it's always nice to keep the host happy, so add "Say thank you" as high priority.

Hey, is that the doorbell? It must be the pizza. Switch back to the Lunch to-do list and check off "Pay for pizza." If you have some spare change, you can also check off the "Tip" item. It must be time to eat lunch! Well, since we're done here, we can go back to the main categories display and remove the complete Lunch to-do list. The only to-do list left is the Dinner list, so you can move on and play with that some more. By now you should have a pretty good idea of how to use What To Do, and also how to get a nice lasagna dinner!

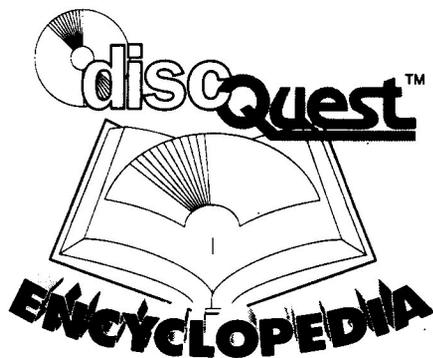


That's pretty much all there is to using What To Do. For those wishing to delve into the depths of What To Do's inner workings, the source code is on your GS+ Disk. If you have any problems be sure to contact me. A good way to let me know what's really going on with some of

those problems is for you to fill out that groovy problem form that's provided on your GS+ Disk. **GS+**

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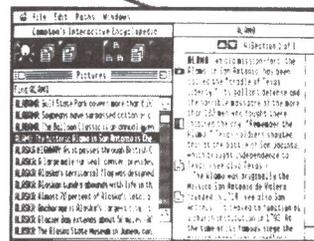
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SEQUENTIAL SYSTEMS

Working With the Toolbox

Part 12: Standard File

By Josef W. Wankerl

The majority of desktop programs you've ever seen make use of the Standard File tool set. Whenever you need to open or save a file, a Standard File dialog box is presented to let you navigate your on-line devices and find the correct files. The beauty of Standard File is that it presents a consistent interface to your users. No matter what program they may be using, they'll always know what to do when a Standard File dialog box appears because they will all operate in the same manner. Not using Standard File when you need to interact with files is a big mistake, and so I present you with this treatise on using Standard File.

2 Calls Are Better Than 1

In the "old" days, there were only five Standard File calls that you had to worry about. Today, those original five calls are virtually useless. They've been replaced by newer, more modern, more powerful counterparts. The newer calls all end with the number "2" in their name.

The "older" Standard File calls are described in the *Apple IIGS Toolbox Reference: Volume 2*. You can pretty much ignore all of them and just concentrate on the material presented in volume 3. I'm not saying that you shouldn't read the volume 1 chapter, though! There's a lot of good information presented in there. However, the calls that are in volume 3 are more versatile.

Three Is A Lonely Number, Too

Standard File is a very specialized tool. It is designed to let your programs do three things: choose a single file to "open" with a Get-style call, choose a single new file to "save" with a Put-style call, and choose multiple files to "open" with a MultiGet-style call. The "choosing the file" part is what Standard File does. The "open" and "save" parts are up to your program.

Two Bowls Of Split "P" Soup

Just doing three things is pretty dull, you may think, but there is quite an abundance of customization that you can do with Standard File. For each style of call, there are two routines—one to present the "standard" interface and one to present a custom interface. In a lot of cases, the standard interface will be all you'll ever need. However, Standard File is flexible enough to offer a wealth of custom possibilities. (It still irks me, though, that in the days of System 6 and DoModalWindow, Standard File *still* uses the outdated Dialog Manager to present and manage its dialog boxes.) The custom calls all have the letter "P" in their names—don't ask me why, I don't know. If you know how to use the standard calls, using the custom calls is done in the exact same way, except that you have to do a little more work in managing the Standard File dialog. The standard interfaces manage everything for you. So, in the interest of keeping things in control, I'll discuss the standard interfaces first and then move on to the custom "P" interfaces.

RSVP

Standard File lets your program know what the user chose in the Standard File dialogs by filling in fields of a reply record which you pass as a parameter to the Standard File call of your choice (See Figure 1). After presenting a dialog, Standard File will have filled in your reply record. The first thing you should do is check the `good` field of the structure to let you know if the user actually chose a file or cancelled the dialog. If a file was chosen, the remainder of the reply record will be filled in with the filename, pathname, file type, and auxiliary type of the file that was chosen. Before you make a Standard File call, be sure to fill in the `nameRefDesc` and `pathRefDesc` fields of the reply record! Setting these

fields tells Standard File how you want the filename and pathname of a chosen file to be returned to you. The best values you can use for the `nameRefDesc` and `pathRefDesc` fields would be `$0003`, which tells Standard File to allocate the necessary memory to hold the filename and pathname and return the handles to that memory in the `nameRef` and `pathRef` fields. It is then the responsibility of your program to dispose of those handles when you no longer need them. (Other values require Standard File to fill the filename and pathname into a fixed-sized buffer, which only tempts users to find the longest pathname to a file as possible and overflow the buffer.)

"Get" No Satisfaction

The first style of call I'll talk about here is the Get-style call. Whenever you need the user to locate a file for your program, you make the `SFGetFile2` call (or the `SFPGetFile2` call if you want the custom version). As far as Standard File calls go, `SFGetFile2` is probably the easiest to understand. For the standard call, you simply give the coordinates where you want the dialog to appear, a prompt string so the user knows what to find, a couple of file filter parameters, and a standard file reply record. Standard File then goes off to do its job. When it's done, the reply record will be completely filled in and you can continue on. OK, so I glossed over things a bit there... let's get into a bit more detail. The coordinates and prompt string are easily figured out. The fun stuff to look at is the file filtering mechanism.

Filtering is the process whereby Standard File only displays files in its dialog that match a specific criteria. (I should have been a lawyer...) In easier to understand terms, Standard File looks at each file in the current directory and checks to see if it is the type of file that

Figure 1 — A New-Style Reply Record

Offset	Name	Type	Description
\$0000	good	word	zero = cancelled dialog, non-zero = confirmed dialog
\$0002	fileType	word	file type of the chosen file
\$0004	auxType	long	auxiliary type of the chosen file
\$0008	nameRefDesc	word	type of reference in the nameRef field
\$000A	nameRef	reference	reference to the chosen filename
\$000E	pathRefDesc	word	type of reference in the pathRef field
\$0010	pathRef	reference	reference to the chosen pathname

your program wants. If it is, Standard File will display it. If the file is not what your program wants, Standard File pretends its not even there and doesn't display it in the dialog. There are two ways to filter out files. The easiest way is to create a type list record. A type list record tells Standard File to filter out files based on their file type and auxiliary types. Usually this is the method you will use. If you need more control than simply looking at file types and auxiliary types, you can define a custom filter procedure. Standard File will call your filter procedure for each file in the current directory and your filter procedure can then look at any aspect of that file and determine whether or not it should be displayed in the list. (You can also have your custom filter procedure display the file but have it not selectable by the user.)

"Put" Out Or Get Out

The second style of call I'll talk about here is the Put-style call. Whenever you need to create a new file to save a document or other similar data, you make the SFPutFile2 call (or the SFPPutFile2 call if you want the custom version). For the standard call, you simply give the coordinates where you want the dialog to appear, a prompt string so the user knows what the dialog is for, a default name to save the new file as, and a standard file reply record. Standard File will then go off to work. Notice that the Put-style routines don't use any kind of file filtering. This is because you're not trying to find a certain type of file, you're just trying to find a place to put one. When Standard File is done, the reply record will be set up the same way as after a Get-style call. This

means that you should check the good field to see if the dialog was cancelled, and also don't forget to set the nameRefDesc and pathRefDesc fields before actually making the Put-style call.

"Multi" Python

The last style of call I'll talk about here is the MultiGet-style call. Whenever you need the user to locate one or more files for your program, you make the SFMultiGet2 call (or the SFPMultiGet2 call for the custom version). If you read your Toolbox references, you may notice that there's not an older SFMultiGet call, it's because SFMultiGet2 is the first and only incarnation of the call. For the standard call, the inputs are exactly the same as that of a SFGetFile2 call except that instead of a normal reply record, you'll give a multifile reply record.

The multifile reply record is a rather interesting beast (See Figure 2). Like it's single file counterpart, the multifile reply record has a good field so you'll know whether or not the dialog was cancelled. Beyond that, the two structures are completely different. The multifile reply record has a namesHandle field which is a handle containing a list of all the files that were selected by the user. The fun part comes when you want to actually extract information from the namesHandle. The information in the namesHandle is in a variable length format. A long time ago, I had the misfortune of having to use a MultiGet-style call. I found that dealing with the namesHandle was not the easiest thing to do, so I wrote some routines that are in

the Miscellaneous Library to help me make some sense of the namesHandle structure. The first of these is called FillReplyRec, and all it does is take a namesHandle, an index into the namesHandle, and a normal reply record—it looks inside the namesHandle to find the requested file by index and then converts that entry into a normal standard file reply record format. The next routine is called TraverseNames, and it takes a namesHandle and a pointer to a custom file handling routine. It then goes through every file in the namesHandle, calls FillReplyRec to make a normal reply record, and then calls your custom file handling routine. The beauty of the TraverseNames routine is that it can actually (but doesn't have to) go inside selected folders and call your file handling routine for every single file in every single folder that's been selected. Of course if you're brave enough, you can always attempt to process the namesHandle structure on your own—but why pull your hair out when I've already pulled mine out for you?

Customs: Do You Have Anything To Declare?

Customizing the Standard File dialogs can be both fun and annoying. First the fun part: You get to make the dialog look and do just about anything you like. Now the annoying part: Standard File uses the Dialog Manager to handle the dialogs, so you have to lay out your own dialogs (remember that the Dialog Manager can't handle extended controls).

There are actually two ways in which you customize Standard File dialogs. The

Figure 2 — Multifile Reply Record Structures

Multifile Reply Record

Offset	Name	Type	Description
\$0000	good	word	zero = cancelled dialog, non-zero = confirmed dialog
\$0002	namesHandle	handle	handle of the chosen file information

NamesHandle Structure

Offset	Name	Type	Description
\$0000	bufferLength	word	total size of the namesHandle structure
\$0002	fileEntryArray	array	array of file entry structures

File Entry Structure

Offset	Name	Type	Description
\$0000	fileType	word	file type of the chosen file
\$0002	auxType	long	auxiliary type of the chosen file
\$0006	nameLength	byte	total length of the pathname
\$0007	prefix1	byte	pathname prefix character (always "8")
\$0008	prefix2	byte	pathname separator character (always ".")
\$0009	name	characters	filename string

first way is by having a custom item drawing routine. For every item in the Standard File list control, your custom item drawing routine will be called and you get the chance to draw anything you like. (Of course drawing an icon and the name of the file would be the best thing to do, but, if you *really* wanted to, you could draw a picture of your mother.) With System 6.0.1, having a custom item drawing routine isn't really all that necessary. If you want to display a custom icon for certain types of files, you can make use of the fact that Standard File makes the QuickDraw II Auxiliary GetSysIcon call to get a pointer of the icon that it draws. With System 6.0.1, the GetSysIcon call broadcasts a request to see if any request procedures have an icon to substitute for the "default" icon the system will provide. All you have to do is install a request handler to watch for the systemSaysGetSysIcon request and then return a pointer to your custom icon. Using the request procedure method is usually much easier than coding a complete item drawing routine. Of course if you need to draw icons based on more than just file type and auxiliary type information, a custom item drawing routine would be the only way to go.

The second way in which you customize Standard File dialogs is to actually lay out a new dialog. You have to include all the standard controls and user items for the dialog, but after that, you can add as many dialog items as you like. Since you're maintaining a new dialog layout, you also get to know what dialog items were hit and you get the chance to respond to those hits before Standard File does.

4 = 3 + 1

OK, I know I said that Standard File only does three things, but there are three non-housekeeping calls that don't display dialogs and you should probably know about them. The first is the SFAllCaps call—it does absolutely nothing. It's a carryover from the "days of old" that is no longer needed and has been disabled. The next is the SFShowInvisible call—it controls whether or not item drawing routines display invisible files. You normally don't have to worry about this call unless you specifically need to get at invisible files, which is usually never. The final call is the SFRScan call—it can only be called from within a custom item hit routine. It causes Standard File to recreate its list of files using a new filter procedure and/or type list.

That's All!

Yep, that's right, that's all there is to Standard File. I think I've done a pretty

good job of explaining exactly what things do, but once again, I've gone one step further and provided you with some great sample source code that actually demonstrates how to make the calls from within a real program. In order to show you how to make the custom Standard File dialogs, I went directly to assembly language in order to lay out the dialog templates. If you're scared off by assembly language, don't worry. Everything in the assembly file is simply data—not one stitch of code. I had to work a pretty trick here and there with Pascal to accomplish this, and the end result is hopefully something that all you Pascal fans can enjoy. You'll also notice that there are dialog templates for both 640 and 320 modes while the demo program only operates in 640 mode. I thought it'd be a good idea to leave the 320 mode templates in there just so you don't have to hunt and peck in case you find yourself needing them sometime down the road.

Demo(nic) Menu

The Standard File demo program is very simple. It is simply our old friend the application shell with a Demo menu put in. There are no windows or controls to worry about. When you choose an item from the Demo menu, a corresponding Standard File dialog is presented. The first three items in the Demo menu bring up standard dialogs. The last three items in the Demo menu bring up custom dialogs. You'll notice, however, that even in the standard dialogs, AppleWorks GS word processor files get their own special icon. This is because a request procedure has been installed to recognize the word processor files and return a custom icon for them. Whenever you choose a file from any of the dialogs, the demo program will then show you which file or files you've chosen. Now that you know how to work the program, let's take a little deeper look inside . . .

Inside Out

Most of the meat of the demo program is comprised of keeping up the desktop. The actual code to demonstrate the Standard File calls is relatively small. Each call gets its own separate procedure. Following along with your Toolbox reference books, you should pretty much be able to get a handle on the frequently used Standard File calls. For each successful Standard File call made, the ShowFile function is called to display the chosen file. For custom calls, the ShowValue procedure is called to display the value of the custom check box. Maintaining the correct check box state is done in the hit testing code. Whenever a hit on the check box is

detected, the check box state must be manually toggled. (Remember, this is the eccentric Dialog Manager you're playing with, not a modern window with extended controls and TaskMaster to help you out.) For MultiGet-style calls, I use some Miscellaneous Library functions to help show the selected files. If you really wanted to, you could also show the contents of every folder by using the trContentsFirst or trContentsLast parameters instead of the trNoContent value.

One of the tricks used to have the entire program in Pascal and not having parts in assembly is evident in the CustomDraw procedure. Standard File passes the CustomDraw procedure a bunch of parameters, but it only expects the first parameter to be pulled off the stack before returning. To get around this, I coded the procedure as taking only the first parameter (which will be pulled off the stack) and then to get to the remaining parameters, of which I only need to see one, I find the address of the first parameter and then add the offset to the parameter I want. The reason this works is because Standard File pushes all the parameters on the stack before dispatching to the CustomDraw procedure. When the CustomDraw procedure gets control, it sets up a stack frame so it can access the declared first parameter on the stack. The rest of the data is still on the stack in order, but Pascal doesn't know about it because none of it is declared. Adding correct offsets to the address of the first declared parameter will let you access any of the other parameters.

That's All, Folks!

Putting Standard File to work for you isn't very difficult. The source code for the Standard File Demo program covers a lot of Standard File information. If you find you need to do more than the Standard File Demo program does, you should read up on the Toolbox references. If you had trouble following this article, or the Toolbox references, let me know and I'll attempt to clarify.

I am still writing "Working With the Toolbox" installments "on request." What that means is that you write in and tell me that you'd like to see a program that uses the <insert tool set name here> tool set and I'll work on it. "Common" tool sets will take precedence over obscure ones (i.e. TextEdit and the Font Manager will take precedence over the Apple Desktop Bus tool set). I look forward to seeing your requests!

GS+

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* (see "How to Use Your *GS+* Disk" for more information). 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.

Desktop File *

The *Desktop* file is an invisible file that is kept in the *Icons* folder of a volume. The *Desktop* file contains information used by the *Finder* to keep track of the icons associated with documents and applications. It also helps keep track of which applications can open which documents and where those applications are located.

Finder Icon File

A *Finder Icon* file is a file of type \$CA which contains icons that are used by the *Finder* to identify applications, data files and other items that appear on the *Finder's* desktop. These files are kept in a folder called *Icons* in the root directory of a disk. When the *Finder* first starts up or when a disk is inserted, the *Finder* searches for these files and loads in all of the icons in them. In addition to icons, a *Finder Icon* file can contain information that tells the *Finder* which application to run for a particular data file. However, *Finder Icon* files are limited in that the applications they reference can only have a pathname that is 64 characters or less in length. Also, these pathnames are "fixed," meaning that if you move the application they refer to, the *Finder* will not know about the change. So to overcome these limitations (and others), with the release of System 6, *Finder Icon* files were replaced with a single invisible file called *Desktop* (see above). This file contains *rIcons* (see below), and *rBundles* (see below) that give the *Finder* the same basic information as a *Finder Icon* file, along with other information that makes the *Desktop* file much more flexible.

Current versions of the *Finder* will still use *Finder Icon* files, but the *Desktop* file is now the recommended place to keep icons.

Icon *

An icon is a graphic representation of something. On the IIGS, icons are used to represent disks, applications, data files, folders, and other "items" that you work with while using your computer.

Laser Printer

A laser printer is a printer that uses a low-intensity laser beam to specify the position of the "ink" on the printed page. This laser is fired at a photoelectric drum, placing an electric charge on the surface of the drum. This charge attracts particles of toner (see below) which are then transferred to the paper as it passes through the printer. The toner is then heated, fusing it to the page.

rBundle

An *rBundle* is an extremely complex resource that *Finder* 6.0 (and later) uses to keep track of applications, their icons, the data files they can open, and where they are located. *rBundles* are kept, along with the *rIcons* (see below) that they use, in the *Desktop* file (see above).

Resources *

Resources are commonly used items (menu items, windows, sounds, etc.) that are kept in the resource fork of a file.

Resource Fork *

A "resource fork" is a special part of a *GS/OS* file where resources are kept. A file with a resource fork cannot be accessed by *ProDOS* 8 programs.

rIcon

An *rIcon* is simply an icon (see above) that is stored as a resource. (See "Resources," and "Resource Fork" above.)

SCSI *

"SCSI" stands for "Small Computer Systems Interface" and is pronounced "Scuzzy." Put simply, SCSI is a standardized way for computers to communicate with peripherals (hard disks, scanners, etc.) Because it is a standard, a single SCSI device can be used on many different types of computers. For example, most SCSI hard disks can work "out of the box" with both the *Macintosh* and *NeXT* computers. With the appropriate SCSI adapter card, the same drive could be used on a IIGS, IIe,

Commodore Amiga, or IBM PC clone. The SCSI standard also allows devices to be daisy-chained together so that you can have more than one SCSI device online at a time.

SCSI-2 *

SCSI-2 is a newer version of the original SCSI standard. Almost all new SCSI devices are being made to conform to this newer standard. This means that these devices will sometimes not work (or not work reliably) with older SCSI devices and controller cards. However, most SCSI-2 devices are backwards compatible with older SCSI devices. For IIGS owners, the question is, "Will my SCSI controller work with SCSI-2 devices?" The answer is that the *RamFAST* SCSI card is compatible with most SCSI-2 devices and that the SCSI cards made by Apple should work with SCSI-2 devices that are backwards compatible with the original SCSI standard.

SCSI Terminator *

Like all other computer equipment, SCSI devices communicate with each other using electrical signals. When these signals come to the beginning or end of the chain of SCSI devices, they need to be stopped, or they can "bounce back" to the other end of the chain and confuse the other SCSI devices. The job of a SCSI Terminator is to stop those signals before they bounce back. Therefore, both the first and last device in a SCSI chain should have terminators. Devices in the middle should not have a terminator.

Some devices are internally terminated (that is, the terminator is inside the device case), while others require an external terminator to be attached to one of the devices external SCSI ports. The best way to tell if a device is internally or externally terminated is to check the manual that came with it. (Also see "SCSI" above.)

Toner

Toner is the substance that is used by laser printers, photocopiers, etc., to create images on paper. Basically, toner is a collection of very tiny plastic beads that melt at a relatively low temperature (about 400° Fahrenheit). These beads are sprinkled onto the page and then heated so that they melt and stick to the page. This effectively "fuses" the toner to the page, resulting in a long-lasting and professional looking printed image.

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Quickie 3.2 requires an Apple IIGS running GS/OS v5.0.4, or later; 1.5MB RAM if running GS/OS v5.0.4, or 2MB RAM if running System 6.0, or later; a 3½" floppy disk drive; a hard disk drive is recommended.

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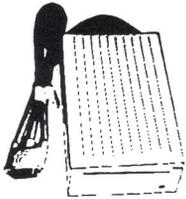
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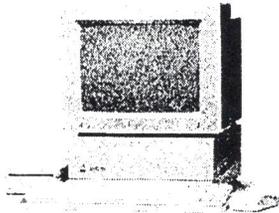
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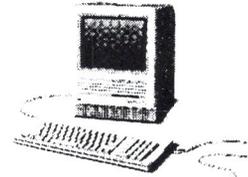


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