GS+®

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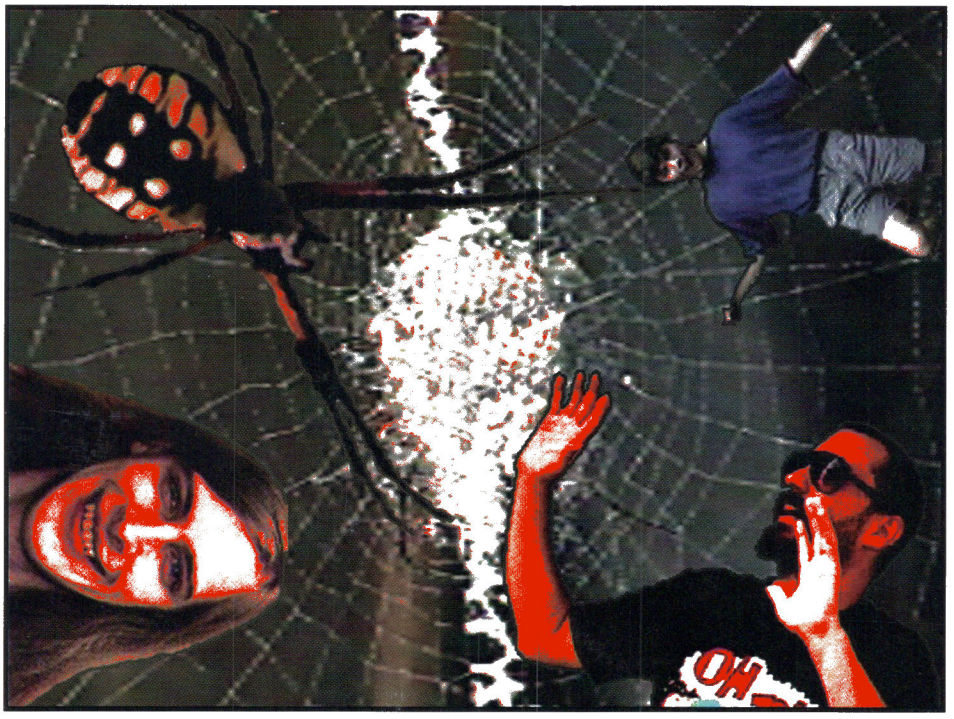
Volume 6
Number 1

The *First* Giant Spider Magazine + Disk Publication!



Fifth Anniversary Issue!

Can you believe that it's been five years since the Giant Spiders took over the earth?

In this issue of ***Giant Spiders+***, We look at the impact of the invasion on daily life, and we have a bunch of information on the Giant Spider's favorite computer, the Apple IIGS!

Features

SpiderFest Report
Halloween Fun With Your Giant Spider
Working With the Toolbox - Part 13: The Egg Sac Manager

Programs

Find Original • Table Scraps • What To Do v1.1

Reviews

DiscQuest Encyclopedia
Quick Click Calc

Plus - Hundreds of Thousands of Baby Spiders!

Writer's Block

By Steven W. Disbrow

Gimme Five!

Can you believe that it's been *five* years since *GS+* Magazine started publication? I certainly can't! A lot has happened to the IIGS in that time (a lot of it bad), but it's still a powerful, useful machine. Frankly, I like to think that *GS+* Magazine has had a *lot* to do with that! But, of course, we wouldn't be here without *your* support! So, give yourselves a pat on the back for making my dreams of self-employment a reality for the last five years. Hopefully, we'll be around for at least another five great years!

We Got Letters

Of course, as I said in last issue's editorial, our longevity really depends on you! In fact, last issue's "Writer's Block" probably generated more mail than any other feature, program, review, or editorial in our entire history! Fortunately, almost 100% of the letters were "attaboy" types from people that agreed with me. (Lots of folks even backed up their sentiments with back issue orders!) Of course, there were, I think, *three* people that *didn't* agree with me, but only one of them cancelled his subscription! That's the good news . . . .

What's the Bad News?

The bad news is that our printer of the last several years, has finally hit us with a price increase. Why? Well, it's basically due to the increasing price of paper. This in turn has been caused by the various and sundry natural disasters that the United States has endured the last few years. I think the final straw was the series of wildfires that have been scorching the Pacific Northwest this summer. The bottom line is that there really isn't any way they could avoid raising their price for printing *GS+* Magazine. (Yes, we've been looking around for a cheaper printer, but around here, cheaper means *cheaper*, if you know what I mean. But, we will keep looking . . . .)

So, this price increase forced me to once again take a long hard look at our pricing structure and the profits that we make on each of our different subscription options. I was surprised to learn that, even with our recent price increase, we were *still* losing money on our magazine only subscriptions. However, all of our other subscriptions are still making us a fairly good profit, and should continue to do so even after taking the printing cost increase into account.

However, the printing cost increase, combined with the fact that we were already losing money on magazine only subscriptions means that we've got to do something to correct the situation. Now, there are actually three different things I could do here:

• Raise prices across the board. An increase in printing costs is, frankly, a great excuse to do this sort of thing. However, I've already told you that we don't need to do this, so you can probably guess that this isn't the option I picked.

• Discontinue magazine only subscriptions. As I've said in the past, I originally didn't plan on having a magazine only version of *GS+* Magazine. Also, magazine only subscriptions have been less profitable (or actually lost money) for us from the very beginning. However, this would severely limit the number of IIGS owners that we can appeal to (not everyone has a hard drive), and it would probably tick a lot of folks off, so I'm not going to do that either.

• The last choice is to simply raise the price of a magazine only subscription. I think this is the least painful option for all concerned, so this is exactly what I am doing.

So, effective September 1st, a one year magazine only subscription to *GS+* Magazine is $24, and a half-year magazine only subscription is $15. If we receive an "old rate" order for a magazine only subscription *after* this date, it will be pro-rated to give you an appropriate number of issues. (i.e. If you send us $10, you will get two issues, and if you send us $18, you will get four issues, the first of which will be delivered via first class mail.)

This also means that our back issue prices will eventually be going up, but not just yet. Since most of our back issues were printed at a lower cost, those prices will be staying where they are for now.

Also, our first class and foreign shipping costs will be remaining where they are. As I said, we are only losing money on magazine only subscriptions, so that's all that's going up.

At this point, you might be thinking, "If things are so bad, why the color cover?" Well, it *is* our fifth anniversary issue, and besides, it was Sequential Systems idea (and they are paying for it too). We may continue to do color covers, but only if our advertisers are willing to pay for them.

AutoArk Update Update

As I write this, Addressed For Success is selling well for us, but we are still waiting for ECON Technologies to supply us with the AutoArk update. However, they have given us a beta copy, and it looks great. All of the bugs from the last version appear to be squashed, and we should be ready to ship by the time you read this. As always, check the **a.Read.Me** file in the *GS+* Disk for the latest information. If you are a registered AutoArk owner, we'll be sending you a nice form letter just as soon as the update is ready.

Other Stuff

And, just in case you were wondering, we are working with several other Apple IIGS publishers to begin selling their software. This *might* be the beginning of the IIGS-only mail order service that I've been kicking around for a few years. Then again, it might all fall apart. So, stay tuned.

Newton-IIGS

One product that we are *very* seriously looking at is a Newton package installer for the IIGS. Ever since the idea was put forth in last issue's "Letters" column, we've had a steady stream of phone calls and letters from folks that would love to see something like this. If we did do this, it will probably be a stand-alone product like Addressed For Success, simply because so few of our readers actually have Newtons.

Take Care

If you were at the big KansasFest show in July, you may have noticed that I didn't attend. The reason was that on July 1st, my father had a heart attack. So, I really didn't want to be 800 miles away while he was recuperating. Fortunately, his surgery was a complete success, and, just over a month later, he's his ornery old self again.

Now, normally, I like to try and keep my personal life out of the pages of this magazine (I usually fail), but in this case, I wanted to tell this story to make a point: Take care of yourselves. Go to the doctor regularly, eat right, exercise more often, don't smoke, don't jump out of airplanes without a parachute, etc. *You* might not give a damn about your own health, but I can guarantee you that someone out there does. So, do it for them. *GS+*

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On The Cover

It's our fifth anniversary/Halloween issue!

What better way to celebrate than with a giant spider invasion?

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We used Quark Xpress to help the spiders invade. - Thanks Jeff!

Letters

Joe,
... If I make a call to `FrameRect` and `FillRect` I get a nice box filled with the color of my choice. If I use `SpecialRect` instead, I get black bars across the rectangle alternating with my desired color (640 mode). The *Apple IIGS Toolbox Reference: Volume 3* says basically that the new command combines the other two. What gives?

Gary L. Graf
Makakilo, HI

Well, what gives is that `SpecialRect` doesn't actually call `FrameRect` and `FillRect`—it draws that box all by itself in its own way. In the description of the `SpecialRect` call, it says that the low-order four bits for the two color parameters you pass specify the color. This is incorrect. The entire sixteen bits are used for the color. So, if you wanted a box with a black frame and a white interior, you'd pass $0000 for the `frameColor` and $FFFF for the `fillColor`, not $0000 and $000F. (Try passing $000F, $00FF, $0FFF, and $FFFF to see what happens to the box—it's real fun.)

Joe

Diz,
As you mentioned in your "Programming the IIGS-Part 3" article in the July-August 1994 issue of *GS+*, I too had found after talking to Resource Central that the *Apple IIGS Toolbox Reference, Volume 3* is out of print. I have purchased a set of IIGS programming documentation from a friend but both the *GS/OS Reference* and *Toolbox Reference, Volume 3* are "beta draft" versions published by Apple and distributed unbound (hole punched for a 3-ring binder).

Will these beta draft documents be adequate to use in programming the IIGS or should I start hunting for Addison-Wesley bound copies of these documents? The person I spoke with at Resource Central said he thought that the beta draft Apple documents were probably the same source information provided to the publisher. What do you think?

Mark Welte
California, MD
Internet:
WEL378@prb.mhs.compuserve.com

Yes, if you can find them, these books should work fine. Some of the information in them may be inaccurate, but they will work better than nothing! (For example, I wrote the original EGOed using a beta draft of Toolbox Reference 3.) To supplement these books, I would strongly recommend that you get the System 6.0 and 6.0.1 Programmer's References from the Byte Works. They each contain corrections and clarifications to the GS/OS Reference and all of the Toolbox references. These corrections will apply equally well to the beta documentation that you have.

Diz

Diz:
... Re. the comment in *GS+* V5.N6 on the Addison-Wesley HyperCard IIGS language reference manual .... Please tell your readers to check their local Borders, Barnes & Noble, Hawley-Cooke, etc. for copies that may still be on the shelf. I bought the last copy at our Barnes & Noble here in Indy yesterday; they usually don't send books back (magazines are another matter). I'm off to check for other copies in Bloomington today, but there is still hope if people are looking.

Greg Dunn
Greenfield, IN
Internet: GregDunn@aol.com

Diz,
Well as I'm sure you know, as of November 1st, all of us poor Apple IIGS users are being cut off of America Online. Now granted we've been treated like fools for the last couple of years, but this is the biggest slap in the face of all! Is there anything we can do? I'm sure the "powers that be" have made their decision and etched it in stone.

I've been envious of the interface the Mac and PC crowd have for America Online, but even our silly ProDOS-16 America Online interface (with the help of Online Enhancer) was better than the text-based world of GEnie.

I guess there's no use complaining, maybe it's time to sell the good old IIGS and follow the crowd (Mac or MessyDos) where we might get some respect. (Even Rodney Dangerfield gets more respect than a Apple II user on America Online!) Any thoughts?

Steve Schmidt
Berthoud, CA
Internet: Smitola@aol.com

Boy, this is a loaded question! I guess all I can say is that, like everyone else, I was ticked off and disappointed by America Online Inc.'s decision to discontinue service to Apple II/IIGS customers. However, I do not think this is any reason to sell your computer! That would be like selling your radio because your favorite band broke up.

As for what we can do to change things ... well, I don't think we can change things as far as America Online is concerned. However, there are two services that remain committed to the Apple II (GEnie and Delphi) and we can throw our support behind them. In fact, I've asked representatives from each of these services to write up a half page "advertorial" to let you know why you should give them a try. You'll find this information in this issue's "America Online, Isn't" article.

Now, as far as GS+ Magazine is concerned, America Online will pretty much cease to exist on November 1st. I'll probably still keep my GSPlusDiz account there to provide support for our Newton products, but that's about it. I'm going to close down our area on America Online and I'm going to start accepting Internet mail via both GEnie and Delphi. And you can bet that I'll be spending a lot more time on GEnie and on Delphi as well. I hope to see all of you there too! (Hmmm, I guess that I should point out that all of the "aol.com" Internet addresses you see in these letters may not be active by the time you read this!)

Diz

Diz:
Is there a IBM to IIGS TrueType font converter available? I'd like to be able to use the TrueType fonts on local bulletin boards but I assume you'd need to have the fonts have resource forks to be useful on the IIGS. I know there's a commercial Mac program (FontMonger or some such) that does that conversion, but I'd like to be able to do it meeself rather than rely on friends. Failing finding such a program, is there a shareware program for the Mac that does this? If so, where might I find it? Thanks.

Ryan Lanctot
Kelowna, BC, Canada
Internet: ryan.lanctot@wizardbaud.com

I don't know of any such program for the IIGS, but I'd like to have one too! (Does

anyone out there know of such a program?)

At any rate, you are right in assuming that TrueType fonts have to be in "resource forks" to be used by Pointless on the IIGS. (Specifically, they have to be TrueType fonts intended for use on the Macintosh before Pointless will recognize them.) Sadly, I don't know of any shareware software for either the Mac or PC that will do this conversion.

Diz

Dear *GS+*:
May I thank you for your recent publicity for the Phoenix Group. [Mentioned in "Rumors Wishes & Blatant Lies" in *GS+* V5.N5 - Ed.] However, I would like to correct (Nah, that's to harsh a word—"advise," perhaps) you on some of the points you made.

The Phoenix Project wasn't started by a "group" in the U.K.—it was suggested by me, but almost all of the original members, and a large proportion of subsequent members, are from the U.S.—from which we have had considerable support, including your own remarks.

There is a "European" dimension to the Phoenix Project, in that the *entire* membership of the French DevLinkGS group associated themselves with the Phoenix Project, so we are bi-lingual, with a separate French-language axis to the Project. Lionel Saugrain (saugrain@arhipel.fr) is the Coordinateur Francais.

The other thing I'd like to make you aware of is our Mail Hub, which is operated by Austin Phelps (tf3@pro-lightning.oau.org). This is an automatic mailing system, which gives us broadband communications within the group, without cluttering up the Internet newsgroups. There are a number of specialised mailing-lists set up as needed to handle specific projects, but the "general" one is "phoenix-list@pro-lightning.oau.org"—anyone can join the Project simply by sending e-mail with the subject-line of "phoenix-subscribe", which will deliver to them our "joining pack." This contains statements of intention (and some of principle) plus information, suggestions, and other "basic" stuff, including details of how to use the other lists.

Also, the Phoenix Project has not acquired Foundation. We have members who are working on it, Eric Shepherd (uerics@mcl.mcl.ucsb.edu) is "controller" for it, and we have a specialised list for discussions about it, but we don't own it in any way. The only thing we can take any credit for is in having "shaken it loose" and helped to obtain Marc Wolfgram's agreement to make it publicly available on America Online.

Finally, as you made clear in your piece about the Phoenix Project, we do have a plan—which we call the Phoenix Tree—but we don't have enough active volunteers. Nor do we have enough members who are active, and in need of assistance with their work, since that is what the Pheonix Project is intended to do: To allow people to pool their strengths and weaknesses, and in combination to develop new programs, better than either could produce alone.

The "Coordination Crew"—Lionel, Austin, myself, and Dan DeMaggio (archivist) have put together a net-based system which can help *all* IIGS users to prolong the useful life of our favourite machine—now we need lots of IIGS users, expert, novice, or in-between, to use that system.

With the active support of *GS+* Magazine and others, we hope that this will develop soon.

Richard King
Internet: Tombo@mail.on-line.co.uk

Thanks for the information Richard, and best of luck to the Pheonix Project! (Be sure to send us any press releases that you have!) Now, speaking of Eric Shepherd . . . .

Diz:
I am one of the [shareware] programmers to whom Roland Götz is referring in his letter in *GS+* V5.N6. I don't recall the content of the first letter, and it is not in my files (and, yes, I do file every single letter I get regarding my software), and his second letter simply said something very much along the lines of "I wrote you a letter, please respond to it." Since I couldn't find the first letter, of course, I had nothing to say.

Some excellent points were made in your reply, and I'd like to just add a few things:

1) Shareware programming isn't a career for me—I do it because I really, really like doing it, and can make a few dollars at it (but *not* enough to cover my costs online doing support, which is very unfortunate considering the number of people I know are using my software). I don't have time to go to extremes to provide support, which is why I ask for users to help me to support them by:

A. Including a SASE. If it's outside the US, they most likely won't get a reply without one; sending mail outside the US requires I go to the post office to find out how much the postage is. I don't have that kind of time, unless I just happen to be going to the post office anyway. Even within the US, if there's no SASE, they'll only get a reply if I think it's absolutely necessary, and even then it may take up to three months, since that's the approximate length of a school session, and during school my schedule is packed.

B. As a typically lazy programmer, if I can't do it by e-mail, I tend not to bother at all unless I can't avoid it (see "A" above), which is why my documentation makes disparaging remarks about using postal mail only when really necessary. I reply to *all* e-mail within two days—usually within a matter of hours; I check all my e-mail addresses at least two, sometimes ten or more, times per day.

2) If I don't receive a shareware fee for a shareware item, I will only provide support to the extent that it affects your chances of paying for the program. If you can't install it and have it actually work, I can't reasonably expect you to pay for it until it *does* work. Those questions I will answer, usually promptly, as long as the conditions in #1 are met.

3) When I move, I often release updates of my software just to get the new address out there. At the very minimum, I update the address in my GEnie topic in the A2 RoundTable (Category 13, Topic 18) and otherwise let people know I've moved.

Quite simply, the best way to reach most programmers is by e-mail. For myself, between six to ten hours of schoolwork per day, three or four hours of programming, and then sleep whenever possible doesn't leave time for me to relax (in order to maintain my facade of sanity) and to reply to mail, especially when it isn't clear what I'm being asked for.

The bottom line is this: Assume shareware programmers are busy 28 hours per day (that's not a typo, okay? :) and go on from there. If you want instant support—which I'd love to provide!—get yourself an e-mail account and use it. You'll find response times dropping and the quantity and quality of the replies skyrocketing.

Eric Shepherd
Shareware Author
Internet: uerics@mcl.mcl.ucsb.edu

Thanks for the letter Eric. Those are all good points. So, do any of the other shareware authors out there have any tips on getting the best support for shareware products?

Diz

Diz:
. . . What was the name/phone of the company that had Star Trek sound samples for the IIGS? (I was trying to find their phone and product names, but I can't find that issue of *GS+* anywhere).

Andy Volk
San Marino, CA
InterNet: volk@cco.caltech.edu

The name of the company you are looking for is Sound Source Unlimited. You can contact them at:

Sound source Unlimited
2985 E. Hillcrest Dr. STE A
Westlake Village CA 91362
805-494-9996

Be sure to tell them that GS+ *Magazine sent you!*

Whew! Those were just the "regular" letters we got after last issue! Now, let's move on to comments on my "Something for nothing" editorial from last issue . . . .

Diz,
Again, congratulations on an excellent issue of *GS+* Magazine (July/Aug, V5.N6)—and early, too, despite the move.

. . . In response to your editorial ("Writer's Block," V5.N6), I am *not* going to cancel my subscription. In fact, I'm going to order a copy of "Addressed For Success." (I've been looking for this since you reviewed it in *GS+* 2 issues ago, but couldn't seem to interest ECON in selling me a copy.) I try to keep members of our IIGS user group informed through articles in our monthly newsletter and demonstrations at our monthly meetings. We've demonstrated everything from Sequential Systems' discQuest, to Quickie scanners, to SoftDisk *G-S*, to Pointless and HardPressed. Yes, we've even demoed a few NDAs from *GS+*. I can't help but notice, however, that after each demo, most of the members present will say "Wow!" and then copy a few of the public domain/shareware disks in our library and leave without ordering any of the items that were demonstrated. It seems to be a prevailing attitude that [since] the computer cost so much that the software should be free . . . .

Dale R Barker
Milford, ME
Internet: DaleB25@aol.com

Diz,
Way to go on the "Writer's Block" from V5.N6. If Apple II people don't wake up and smell the coffee, there will be no one left, and then all you will be able to do is play old 8-bit games on an emulator like "Stop The Madness" (if that's even around). You haven't lost a subscriber here, you've gained lifetime loyalty . . . . I wish you the best of luck!

Charles A. Plater
Detroit, MI
Internet: cplater@genie.geis.com

Thank you for your editorial in the July/Aug issue of *GS+*!

You have stated in print something that I have repeatedly stated on Usenet and through other electronic sources: The attitude of many Apple II'ers is way too sour to do anyone any good.

The only people left in the Apple II community are people who really love the machine, the community, and the spirit of the Apple II. Companies interested solely in profit are not going to change their minds about supporting the II; there is not enough money in the market to support such development.

Without a doubt, many would agree with me when I say that the Apple II has reverted to its original state: A hacker machine. That which made it popular in the beginning is responsible for its longevity and its continued use—the machine is open, and begs you, the user, to make it do things that the "experts" continually cannot be done.

. . . [So,] if you're upset about the state of the II, what are you doing with your frustration? Are you using that energy constructively, writing programs, designing add-on boards, or encouraging those who do? How much shareware do you have that you didn't pay for? How much of your commercial software did you actually buy?

While it is true that those who continue working on the II do so because of their love for the machine and its spirit, they cannot continue to do so if they are not paid for their work. Support them, and they will support you.

It is very disturbing to read some of the threads on comp.sys.apple2. There is an overwhelming feeling there that I just don't like. Too many people make too many complaints, don't have solutions themselves, and won't work toward coming up with any. The general attitude is even worse among the BBS community in general. Of course, there are always those people who are clued (as opposed to clueless) in any circles, but for the most part, the voice of the Apple II user is increasingly is a whiny one—from someone who thinks that the world owes them something.

If you're not part of the solution, you are part of the problem. Support the Apple II, with your programs and products, with your encouragement, and with your dollars. Without that support, it will not be long before the II goes the way of the PCjr.

C. Matthew Curtin
Columbus, OH
Internet: cmc@brandx.cs.ohiou.edu

Well, Well, Well . . . . Finally the Diz man stands up and vents probably what has been on his mind for ages since starting his business venture/s! This letter to you serves two purposes: To give kudos, and to bestow some business wisdom.

When I came home today and did my usual tromp to the mailbox, I was warmly greeted by the next installment in IIGS information; *GS+* Magazine and Disk. As usual, I was excited to get inside and immediately rip into it. But, I must tell you that when I saw your opening "Writer's Block" column, I was shocked and then I found myself laughing and cheering for you.

Finally, I saw something that I thought would never come from the IIGS software/publication/development community: Guts! You had the fortitude to stand up for your product rather than walk away with your tail between your legs (so to speak). You had the strength to shout back at people who will try to knock your creative spirits to the ground. You had the "wherewithall" to put your reputation on the line for quality not quantity in your product. In the end, this issue of *GS+* is my all time favorite so much so that I have encased it in what's like a comic book protection sleeve.

IIGS users (albeit some are brilliant) are for the most part, cynical, lazy, spoiled, and just down right *cheap*! "Gimmie, Gimmie, Gimmie artists" is a good description for us. We are so used to the abundance of freeware, shareware, and even commercial software available for our trusted machines that we lost sight of what it takes to put them into the market

in the first place. The main thing it takes is money.

Yes people, I am afraid to drop the bomb on ya all, but software writers have families too, with mouths to feed . . . .

Okay so our market has been reduced majorly (and I will be the first to admit that pirated software can be the only avenue to find some old rare items nowadays, i.e. Epyx titles) but, to blatantly kill someone's hard effort and dedication such as [Diz's] by making baseless, unfounded comments such as, "Your back issue prices stink," "Cancel my subscription cause I can't find anything in here useful," makes me sick! Don't those people realize that maybe Diz has a family too, who maybe want a vacation together, children, or just a plain break from the IIGS (nah, silly thought)? All these things take support in the form of monetary participation.

. . . So [Diz] the next time a user/subscriber/newbie says, "I can't believe how much you charge," or "I ain't gonna buy IIGS software" tell them politely to do themselves a favor and take a beginner's business course at a local junior college to see just how much it really takes to run a business and not one of those late night scam opportunities on TV. However, if the same imbecile screams about lack of IIGS support after just complaining about prices, tell them this: When you substitute price for value you eliminate support and excellence. *Go out and program your IIGS by yourselves, for yourselves, [or] support those that are helping you, such as this publication!*

Enuff said . . . hrrrrumph!

P.S. Now I will go and dump another $1,000 into my beloved machine . . . .

Todd Zashin
Tucson, AZ
Internet: thrashin@seagull.rtd.com

Diz,
My name is Rick Millus and I am the editor of our local Apple user group's newsletter. . . . I got the current issue on Friday evening and would like to print your editorial in full in our newsletter . . . . I know how you feel about reprinting, after all you are in the business of selling magazines. In this instance I think this is something that needs to be heard by all who own Apple IIGS computers and I don't think I or anyone else could put it better than you did. I would follow it with a short listing of those that support the Apple IIGS with addresses and ordering information.

I have pushed your *GS+*, as well as others, through our newsletter since I read the first one. I disagree with the letter you published from Charles S. Pineo where he asked for a cancellation of his subscription. I don't see *GS+* as being too technical for even the beginner. You have a good cross section of information for every level of user. That wasn't the case a short time ago, but you have changed with the times to cover a wider range of IIGS users. If people don't stretch themselves a little by getting in over their heads once in a while then they will stay exactly where they are—beginners. I don't claim to understand everything you folks publish every month—I'm just beginning to learn to program—but it gives me something to do a little research on, to learn, to eventually understand. You folks are doing a great job, as can be seen with the latest *GS+*. Keep up the good work and don't let the naysayers bring you down.

Rick Millus
Medford, OR
Internet: RichardM@aol.com

I thought I would run all the "attaboys" without comment, but Rick has asked a direct question here about reprinting the editorial in question. I thought about it a while, and I've decided to break with our long tradition of not *allowing reprints, and allow* this one editorial *to be reprinted. All I ask is that* it only be reprinted in newsletters *(do* not *put it on the Internet or any other online service!), that you* reprint it in its entirety, *and that you* include our complete address and phone numbers at the end of the reprint. *Now, let's get to the two "negative" letters we received on this topic.*

Dear Diz,
In reference to the "Writer's Block" section in V5.N6 I was reminded of a few months ago when I decided to upgrade my IIGS. I. . . called LRO (now Other World Computing) to order a 340MB drive, RamFAST SCSI card with 1MB cache RAM, a RAM GS memory card and the Quickie/InWords bundle. I was told that the RamFAST was out of stock, so I changed to the 256K board.

Over a week later I called to see what the problem was since the order had not arrived. I was then told that the only item that was in stock on my order was the RAM GS. Being upset that they didn't tell me this when I placed the order, I called another company (Quality Computers), that handles Apple II products and was told that they also didn't have the same three items. I was also told that I was wasting my money trying to purchase a 340MB drive since the IIGS could only handle 270MB. [Editor's note: This is *not* true!]

After about a month, I again called LRO who said they had all items except the Quickie/InWords bundle. I told them to ship the other three items, called Quality again to see if they had the Quickie in stock yet and again was told no, they can't seem to get them at that time. Not being too happy about the time that it was taking for these companies to obtain the Quickie, I called Vitesse to find out why they were not shipping. To my surprise, they had been shipping all along and offered to let me purchase direct from them, which I did at that time. [At a cost of about $50 less than I could have gotten it from either of the other companies!]

. . . When I read your article, I thought "Yes, we Apple II people do want things for a fair price!" We also want things delivered when they are advertised and ordered. I don't think wanting things at a fair price ("something for nothing" as you put it) will kill the Apple II market. What will kill the market however is companies that don't want to sell the products to the users. It seems that the few companies that are left that still sell Apple II products don't care a whole lot about the Apple II people. This will drive people from the Apple II or at the very least they will be like me and refuse to order any other products due to the lack of support. You should know that good things for the IIGS are supported since you stated in "Writer's Block" that *GS+* is alive and well!

Speaking of support, the reason I decided to purchase the 340MB drive was that I was tired of waiting for and update to AutoArk (which I hadn't been able to use since System 6.0.1 was released). The first time I called them (ECON), they were aware of the 6.0.1 problem but requested that I send them some of my files that AutoArk wasn't able to read under the new system. After waiting to hear from them for several months, I called again and was told they wouldn't discuss or support AutoArk because a sale was in progress (I assume to you). They couldn't (wouldn't?) even tell me if they received the disk that I sent them. And you say *we* are killing the Apple II?

It seems like the few companies that are left in the Apple II market would try harder to keep what little business is left, but they don't even seem to care if they survive with the Apple II market. Did you ever order from a company like Quality that in turn sends you a catalog that has almost all IBM and Mac items

listed? Try to find all the Apple II products in one of those catalogs. About the only ones that Quality will list are the ones that they own the rights to. They don't want to keep the Apple II market alive, they just want to sell their products.

The Apple II died years ago when Apple decide to kill the line, but I'll still have mine when I go to heaven!

Don Penix
Wayland, MI

Well Don, first of all, I don't think that I've ever said that it was unreasonable to want to be able to buy Apple IIGS products at a fair price. (And, I certainly didn't mean to imply that in my editorial.) The entire point of my editorial was that people weren't buying the fairly priced products that already exist. However, from your letter, I don't think you can be accused of that!

In fact, I agree with just about every single thing that you say. However, being a publisher myself, I think I have a pretty good idea of the underlying causes of the problems you point out.

First of all, you point out the problem of advertised items not being available. We sometimes have this problem with our t-shirts. The reason is that for any given period of time, we just don't sell that many—so we don't order any. We only order them when we have enough orders to meet the minimum order that our t-shirt printer imposes on us. I can't speak for LRO or Quality, but that would be my guess as to what went wrong. (However, I will admit that telling you that the products simply weren't available was very bad business. By the way, I've faxed your letter to both LRO and Quality, but have yet to get a response from either.)

Second, you mention your problems dealing with ECON regarding AutoArk. In this case, I have to say that while I did not realize that our deal with ECON prevented them from discussing the program, I do know that the proprietors of ECON have just added a new member to their family. So, they have been extremely busy preparing for that arrival, as well as trying to earn enough money for a crib, some booties, some food, a college tuition, and some other weird things. When, during the course of that preparation, they realized that the IIGS market was not going to be able to provide them with those things, they decided to get out. So, they had to shift their focus to other things, which led to the decline in support. Similar forces (i.e. life and the need to eat) are affecting other IIGS publishers as well.

So what we have here is a really *nasty cycle: A product doesn't sell, so support drops off, which gives the company a bad reputation, which means they don't sell products, which leads to . . . .*

(Note that this cycle can just as easily start with "company gets bad reputation," as "company's products don't sell." The end result is the same.)

Of course, this cycle is usually *broken by a company going out of business, products disappearing, and people feeling shafted. Actually, this cycle is very common in the capitalist system, but here in the IIGS market, there is a big difference: When a company disappears,* no one steps in to fill the void.

The important thing to realize is that this cycle is *happening to* every single product *in the IIGS market (including GS+ Magazine), and it will* continue *to happen until the cycle is broken. What I am trying to do is point it out, and to let everyone out there know that, at this point,* they *are the only ones that can stop it.*

Diz

Dear Steven,
I read with great interest your latest "Writer's Block" upon the "gimme something for nothing" attitude that leads the developers and companies to set forth . . . to greener pastures . . . . You're probably right and it seems as well we are at the end of the road. But, . . . I would like to report [these experiences of mine:]

• Three years ago, I ordered a $300 Quickie Scanner from ToolBox [magazine] in France and the boss/crook (choose as you see fit) still has my money. [And I have no Quickie.]

• As a RamFAST owner, I wrote to Sequential Systems, sending them a copy of my CV Tech registration card for an upgrade . . . . I received no answer at all . . . .

[The author presented a total of five different horror stories here! The other companies mentioned were Shreve Systems, TMS Peripherals and Strategic Studies Group. I had to remove these paragraphs due to lack of space. The basic idea however, was that he had felt ripped-off numerous times.—Diz]

If some companies . . . think Apple II users are "gogos" (French for gullible fools or suckers), they can go to hell! Don't get me wrong: I still buy IIGS products when they are worth it (Pointless, HardPressed, SuperConvert, Harmonie, Kangaroo, etc.). [But, I think that] when advertising in *GS+*, advertisers should state the ordering conditions for foreign customers. I think it would help a bit. I too am on the verge of leaving my IIGS for a better unit with better support . . . .

I hope to read some excerpts of this letter or at least your reflections on [these] matters in the next issue of *GS+*. If not, I think I [will not] renew my *GS+* subscription.

Name Withheld
France

First of all, I agree completely with you that foreign Apple IIGS owners have a lot more problems getting products, service and support than United States citizens do. I also agree that it would be nice if all our advertisers printed a little more information about their terms and conditions for foreign sales. We'll try to do something about that for next issue.

Actually, I'm not really sure that I should have labeled your letter as "negative." I certainly agree with a lot of what you say. Companies should be responsive to all their customers, regardless of where they live. (Note that we could use some improvement in this area too.) I think the reason I did put your letter in the "negative" group was the nice threat that you ended it with. (However, since I did print your letter, it actually reinforces my point that waving money in the faces of Apple II vendors is the best way to get them to do something! But, resorting to blackmail was a bit rude, don't you think?)

Diz

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.

If you want a personal reply, please include an e-mail address (preferred), a daytime phone number (and the best time to call), or enclose a self-addressed, stamped envelope with your letter. (Tip: Your letter is more likely to get answered and/or published if you sign your name to it!) Please address all letters to:

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

II Scary: Halloween Fun With Your IIGS

By Antonio Gonzolez

Halloween. A scary harvest moon lights neighborhoods all across America. The little ones are trick or treating, leading their parental guides on to new adventures. What, they may wonder, lies behind the door of the next house? Tiny hands timidly rap on the door, to be opened by the kindly (or is he?) owner of the house who is greeted with an ear-splitting, "Trick or Treat!"

Halloween, that spookiest of seasons, is a time for creativity. The older kids and adults may spend days or even weeks dressing up their front yards (or help in building and working in community haunted houses), just to see the thrill on the faces of the little ones as they come cautiously though the yard to the front door.

Since preparing for Halloween takes so much creativity, why not use that most creative of computers, your Apple IIGS, to help out with the festivities? In this article, I'll present six different Halloween projects that your IIGS can help you with. These are fairly basic projects, but they make a good jumping-off point for you to go on to bigger and better things. As usual, the only limit is your imagination!

Project 1: Halloween Greeting Cards

This is a *very* simple project. If you are having a Halloween party or other event (a *fun*eral perhaps), you will definitely want to put your Apple IIGS to work for you. If you want to make some scary invitations, or banners, The Print Shop IIGS is an excellent program to start with. It can print those invitations and banners for you with almost no effort. Or, you could print out a bunch of scary Halloween cards and use them as "wrapping paper" for small presents that you could give to random trick or treaters.

Other programs can be useful for making cards and banners too. A good paint program such as DreamGrafix or Platinum Paint can be put to good use touching up (or creating) graphics and scanned images. And don't forget to use lots of spooky, blood-dripping fonts on your creations. There are many of these fonts available, both in bit-mapped and TrueType formats. TrueType fonts come out amazingly smooth, so, if you don't already have it, it's worth buying Pointless so that you can use TrueType fonts. You can have even more fun by using a hand scanner such as the Quickie or a video digitizer such as the VisionPlus Enhanced. Use these tools to capture real images for use in your cards, flyers and banners. But, if you don't have any of these tools, don't worry, there is plenty of public domain Halloween clip art out there already. Just don't forget to print everything on orange paper.

Project 2: Serious Stuff

OK, so this is just a small part of Halloween preparations, but it *is* important. If you need to figure out your Halloween expenditures, such as how much candy you need, or how much you spent on the costumes and decorations, a financial or database program can be very useful. This may not be exactly what these programs were intended for but hey, 'tis the season to be creative, right? So, to keep those Halloween finances in order, you can whip up a new AppleWorks (GS or Classic) or Quick Click Calc [see review elsewhere in this issue - Ed.] spreadsheet.

Another serious side of the Apple IIGS is in layout and design. For example, I have used my IIGS in the design of haunted house walk-throughs and yard layouts. Having a nice architectural-style plan to work with is much easier than trying to put things together from a bunch of vague sketches on scratch paper. A good paint or drawing program (like the AppleWorks GS graphics module), or an architectural program, such as Design Your Own Home, can be amazingly helpful for this sort of creative process.

WARNING: The remainder of the projects presented here involve wiring and electronics. *Make sure* that all wiring is bundled and kept away from footpaths where people could trip over cords. Also, *make sure* all wiring is UL-approved, is properly grounded, and *never* use frayed cables! *Safety* is always important in these projects and anything else you do. If you are uncertain of any aspect of wiring up your front yard for one of these projects, consult a certified electrician. [Of course, at this point, I have to say that neither the author, EGO Systems, *GS+* Magazine or anyone else here at this end of the magazine will be responsible for anything that goes awry while executing (no pun intended) the projects described in this article. Just remember, if there were more common sense in the world, there would be fewer disclaimers like this. - Ed.]

Project 3: Soundtracking In the Front Yard

OK, so maybe you want to do something special in the front yard. Some strobe lights, dry ice fog, skeletons sitting in the lawn chairs, sound effects playing on the stereo, that sort of stuff. Well, your Apple IIGS can be *really* handy in spicing up the front yard! Especially if you want a great music soundtrack.

The Apple IIGS has probably the *best* built-in sound of any home computer. That's no real surprise, because the sound chip built into the Apple IIGS is also used in the Ensoniq Mirage keyboard. Best of all, Apple Computer has thoughtfully provided (with System 6) a truly outstanding music program to make use of the music capabilities of the Apple IIGS. The program is called synthLAB, and it's *very* well-suited to this type of project. But, first, we need a way to get the sound out of your IIGS and into your stereo.

Now, many people will tell you that to get the best sound out of your IIGS, you *must* have some kind of stereo card—*not true!* Look at the back of your IIGS. See the headphone jack that's back there? (It's right next to the modem port.) Just use a common patch cable (the same kind you would use to hook a Walkman up to your stereo) to connect your IIGS to the aux input of your stereo and you are ready to go! The sound will be monophonic, but, if you don't have a stereo card, don't let it deter you from using it. If you *do* use a stereo card, you will, of course, get lovely stereo sound. (Note that some stereo cards are also sound digitizers. I'll cover this particular toy in just a bit.) Finally, if you don't have a stereo that you can easily set up outside, you should know that you can also buy some tiny amplified speakers and plug those into your IIGS. Bose, MLI and Radio Shack are all good sources for these types of speakers. (Of course, Radio Shack's are the least expensive.) These speakers are nice, but my personal preference is a 150 watt stereo with *big* speakers. Now that we've got our speakers wired up to our trusty IIGS, let's get back to how to use synthLAB.

First off, make sure you have all the the necessary files installed on your boot disk, or synthLAB will not run properly. To make sure everything is installed properly, use the :Install disk that came with your System Software to install synthLAB on your system. After you have synthLAB installed, take some time to read the documentation that Apple provides (it's in a Teach file on the **:synthLAB disk**) and then run the program. Once you have the program up and running, you can either play a prerecorded song, or create some music of your own!

Using Prerecorded Songs

Several songs come with synthLAB, but none of them are really good for setting a spooky Halloween mood. Fortunately, there are literally hundreds of songs available online, and there are several disk collections of synthLAB music. So, check your favorite online service, or contact Big Red Computer Club for their latest catalog of music disks. But, what exactly are you looking for? Always in vogue for Halloween is the infamous "Tocatta and Fugue in D Minor," by J.S. Bach. When you hear the Tocatta, the very first thing that probably comes to mind is *Halloween!* So, it's a good musical start. Another great song is the "Fugue in C Minor," a.k.a. "The Little." There are lots of other scary songs out there; gather some up and see which ones you like the best.

After you have your song selected, run synthLAB and go to its main screen. Load the song you wish to use and click the Play button to make sure it sounds right (i.e. make sure you are using the correct instruments for the song—see the synthLAB docs for more information on this). If you want, you can also load in a new instrument file and change the instruments around until you find a sound that's spooky enough. Don't forget to make sure that it sounds good *outside* too! One hint: Use lots of bass in order to give the song a throaty pipe organ effect.

Now, when you play your song, you may notice that, like most things, it comes to the end and stops. Typical, but you probably don't want to have to sit in front of the computer all night clicking "Play" over and over. So, here's how to get around that little problem: Load the song you want to use into synthLAB. Now, instead of clicking the Play button to play the music, go to the File menu and select the About menu item. Not only does this show the synthLAB title screen, it also plays the currently loaded song. Best of all, when it reaches the end of the song, it will pause for about three seconds and then play the song again! It will keep on playing the song over and over until you press the return key.

Making Your Own Music

One of the great things about synthLAB is that it allows you to record your own music via a MIDI instrument that you hook to your IIGS. This music can be saved and reloaded just like any other synthLAB song. Now, the prospect of getting involved with MIDI may seem a bit daunting, but trust me, it's really pretty easy! Here's what you need:

- A MIDI adapter that plugs into your IIGS and then plugs into a MIDI instrument.
- A MIDI instrument.
- A son, daughter or friend who can play the instrument you have, and that won't mind hamming it up a little for the special night.

The MIDI adapter will probably be the hardest thing to find. Most of the ones that were made specifically for the IIGS have disappeared, but, Apple still makes one that will work with the IIGS, they just won't admit it. (If you have trouble finding a MIDI interface, check out *The MIDI Buying Guide* from Sound Management. It's the final word on MIDI equipment for the IIGS and other computers.) After you have your MIDI interface installed, you have to go back to your System Software disks and install the "Media: Apple MIDI" update. This will install a bunch of files that will enable your IIGS to use MIDI to communicate with the MIDI instruments you hook up to your MIDI interface. One of these files is a control panel that you use to tell your IIGS which port (either the modem or printer port) that your MIDI interface is hooked to. Once you get this set up, you are ready to hook up your instrument and record your music.

Speaking of the instrument, you should know that there are dozens of different kinds of MIDI instruments, with prices that range from about $100 to several thousand dollars. The most common, and least expensive, type of MIDI instrument is the MIDI keyboard. Check your music store to get a good idea of what's available.

Of course, you'll want to pick an instrument that you, or someone you know, can play. But, again, that's up to you. For this article, I'll assume that you've got a MIDI keyboard, because that's what I have.

OK, now let's see just how easy it is to use synthLAB to record a MIDI song. First, install the MIDI software as described above. Then plug the MIDI interface into both the keyboard and the Apple IIGS. (Be sure to use the MIDI control panel to specify the port that is being used!) Now, run synthLAB, pull down the Setup menu, and select the MIDI item. This will bring up the MIDI setup dialog. In this dialog, you'll see two icons with pictures of the IIGS in them. One of these icons also has an arrow pointing to the IIGS. This is the MIDI In icon. Click on this icon to tell synthLAB that you will be inputting MIDI data from an instrument to your IIGS. To close the dialog, click on the arrow in the bottom right hand corner of the dialog.

Now, hit any key on the MIDI keyboard. If everything is working properly, the upper right hand corner of the synthLAB main screen should say "MIDI In" and those words should light up when you press a key on the MIDI keyboard. If it's not working, check the MIDI control panel for the correct port setting, and make sure that the MIDI keyboard is turned on.

When you have MIDI input working, pull down the Instrument menu and note that the Drums item is checked. This means that when you press a key on your MIDI keyboard, it will make a drum sound. To change this, pull down the Instrument menu and just select another instrument. If you want to use a completely different set of instruments, pull down the File menu, and use the Load Instrument item to load a new set of instruments. After you have the instrument you want to use selected, tell your keyboard player to get ready and then click on the Record button. After synthLAB starts recording, tell your keyboard player to hit it! When they finish, click the Stop button. You now have a new song! Save it, redo it, or play it again, Sam. You can then use that new song just as I described in "Using Prerecorded Music," above.

Project 4: Spooky Sound Effects

Sound effects are great fun at Halloween. Traditionally, everyone uses small tape recorders scattered around the yard or house, each playing it's own bizarre sound from behind gravestones, pumpkins, etc. This works fine (until it's time to rewind the tapes!) but, using your Apple IIGS can give you much more flexibility in using sound effects.

For computerized sound effects, the best results can be obtained from combination

of both hardware and software. But, the hardware is strictly optional, and is only used for creating your own sound samples of scary things. A good example of sound sampling hardware is the SoundMeister card (which is also a stereo card). Another good choice is the sound digitizer that comes with HyperStudio. With either of these cards, you can easily digitize sounds from a microphone or even your CD player. (Be sure to check your local record store for CD's with nothing but sound effects on them! Some of these CD's are filled with scary sounds, and are intended specifically for Halloween.)

If you don't have, or don't want to buy, a digitizer, sound samples can be found in abundance on the various online services. In either case, it's worth the time to build a good library of shrieks, moans, thunder, lightning, etc. (I personally keep about 8MB of sound samples specifically for the Halloween season.) Once you have your sounds, you might want to use your sound editing software (which will usually be included with your sound digitizer), to add special effects to the sounds. An especially good effect is to reverse a sound so that it plays backwards. (Pat Boone records have a chilling effect when processed this way.)

Once you have your sounds ready to go, you'll need a way to play them "on cue." One of the best programs for this is HyperStudio. In the simplest case all you need to do is create a stack with a button for playing each sound. Then just about anyone can sit at the computer and click on each sound at the proper time. (A friend of mine used this technique in making a science fiction movie, but that's for another article entirely!) Another possibility is making a stack which plays sounds at random, or in a certain sequence. In any case, its much more flexible than an old tape recorder!

It is also possible to make the sounds interact with the haunted house environment you set up. In his article "Switched-On HyperStudio" in the July-August 1993 issue of *II Alive*, Bill Lynn describes a series of input switches that let the handicapped interact with a HyperStudio stack. It doesn't take much imagination to twist this idea around to give us floor switches that trick or treaters can step on to activate various sounds! Imagine the young ones walking past a gravestone . . . which suddenly screams at them! With multiple switches installed, you can run through a whole bunch of different sound effects. It's only limited by your imagination, and your budget for switches!

Project 5: Graphics & Moving Pictures

Among its many fine features, the Apple IIGS has one exceedingly convenient feature: An NTSC color video output port. In plain English, this means you can connect the video output of your IIGS directly to the video input of a TV or VCR! (If you try this on most of those new "multimedia machines," you will have to shell out lots of green paper to get this capability. But it's built right into the Apple IIGS.) To do this, look on the back panel of your IIGS (right near the power switch and power plug), and you should see an RCA connector right next to the keyboard connector. That's the plug we'll use for this project. Just plug one end of an RCA to RCA cable into your IIGS, and then plug the other end into the "Video In" port on your TV or VCR. (RCA-RCA cables are *very* easy to find, just ask at your local Radio Shack, and make sure you get a cable that's long enough for what you will be doing.) Do *not* plug the cable into an antenna input on the TV or VCR! (The reason is that the Apple IIGS does *not* create an actual "channel" for the antenna to receive.)

Now, turn on your TV and/or VCR, and turn on the IIGS. The picture should appear on your TV at the same time as on the monitor on your IIGS. If it doesn't, make sure that you have your TV or VCR set up to take it's video input from the Video In port. (Refer to your TV or VCR owners manual for more info on this. Or, just ask your kids how to do it.) It should look like a slightly fuzzy version of the sharper picture on the IIGS monitor. But, don't worry about the fuzziness; we will be using that to our advantage for this project.

Now, fire up your favorite paint program and bring up a scary graphic. Note how the sharper lines on the IIGS screen tend to be blended together by the fuzziness on the TV, making a nicer image on the TV screen. Fonts will also lose their jaggies, blending the sides for a smoother effect. Now that we all hooked up, let's do something scary with it.

There are a couple of different things we can do here. A simple scary picture can be made and simply left sitting in the window to scare the passersby. Not too exciting, but it's a start. The next step up is to make an animation of the picture and have it do something frightening. PaintWorks and PaintWorks Gold can create and play animations, and most other paint programs, like Platinum Paint, can play those animations back. And, like sounds and clip art, there are a whole slew of pre-made animations available online.

Now we get to the fun part: Mount the TV somewhere where it will be seen by approaching trick or treaters. In a window, you could cover the sides so that it does not resemble a TV at all. For example you could animate a pair of blinking, bloodshot eyes, and display it on a small TV. If you cover the TV with a hood and robe, it would resemble a deranged monk, staring at the children as they approach. This could be made scarier if the animation shows an actual face that slowly turns into a skull and then flies apart! Or you could put the TV in a coffin complete with an appropriate animation.

So, now we've discussed sounds, graphics and animations. What if we want to mix the three for a more chilling effect? Once again, HyperStudio is an excellent program to turn to. It can work with all these effects at the same time and mix them together with ease! Another good program for this would be Cartooners, and the old VCR Companion would also prove useful here. By using one of these programs you can have an animation of a character speaking or a ghost that suddenly goes "BOO!" or whatever you want.

Finally, the Apple II Video Overlay Card can also be used in combination with a VCR, video camera, TV or LaserDisc player for some exceptionally spooky effects. One idea I am working on for this year involves filming a talking skull with a live camera, then feeding that through the Video Overlay Card to the IIGS monitor. On the IIGS will be one of the hypnotic effects from the Twilight II screensaver. This whole mess is then shown in a TV in the window as a talking skull with special effects behind it. Once again, the only limit is your imagination.

Project 6: Electronic Controls

WARNING: This is the hacker's corner. The ideas given in this project are put forth under the assumption that you are familiar with hardware usage and are an electronics whiz. In other words, proceed only if you know what you are doing! [And see the above disclaimer. - Ed.]

OK, so now it's time to delve into the hardware side of things. Earlier I mentioned the use of input switches and a HyperStudio stack for responding to those switches. But, there are other ways to perform these tasks with your IIGS. However, the bottom line here is that the hardware described is hard to find, which

means you might have to undertake a do-it-yourself project. But, if you already have these things (or something similar), your job will be much easier. Hint: Poking around at an electronic swap meet, or looking through the latest issue of *Computer Shopper*, is a good way to pick up these rare items. Another good place to look for these items is on the Internet, in the "comp.sys.apple2.marketplace" newsgroup.

1) The John Bell I/O card. This card has 24 input/output lines which can be used to control electronic circuitry. (The card utilizes two 6522 port chips, so if you have a similar card, it should work well for this application.) The card is relatively simple to use, requiring only some programming in AppleSoft BASIC to perform the functions you desire.

The input lines can be used with floor mats (as suggested earlier) to trigger the computer into performing an action (like playing a sound). Or, the boys and ghouls working in the yard or haunted house can have pushbuttons to make the computer perform a specific action. The output lines should be buffered so they can control items such as motors, fog machines, strobe lights, knocking solenoids, lights, etc. A whole sequence of events can then be performed simply by pressing a single button, with all the lights and special effects handled by your Apple IIGS. The programming is simple enough that it could be written in AppleSoft BASIC—all a program would really need to do is keep time and send action signals to the correct output lines when needed.

2) The BSR-X10 Controller. The BSR X-10 is a system of house controls that uses plug-in modules which power appliances and turn things on and off. There are several old peripheral cards for the Apple II and IIGS which control the BSR system. An example program for utilizing this controller is the shareware program X10-GS by David R. Hill. This control system has the advantage of not having to roll your own hardware and software, but the downshot to it is the lack of flexibility. Still, you can create a lot of scary effects just by turning the lights on and off. Not to mention iron lungs, paper shredders, buzz saws, drill presses . . . .

November First:
The Day After

The ghouls have fled. The dry ice is dried up. The lightning is no more. Special effects are packed away in boxes for next year. The world is safe again from witches and ghosts and goblins. They have all laid down to rest, awaiting next years night of fun and frights. And, finally, your Apple IIGS returns to it's sedentary life, content with just being your home computer. Or *is* it?

The large number of programs and hardware items listed in this article should give you some idea of the potential in your IIGS. But even if you don't have all, or any, of these products, all you really need to do is look at the programs you *do* have and ask yourself, "What new things can I do with this?" Every new use you come up with makes your IIGS that much more valuable!

So, dive in, and have a great Halloween with your IIGS! *GS+*

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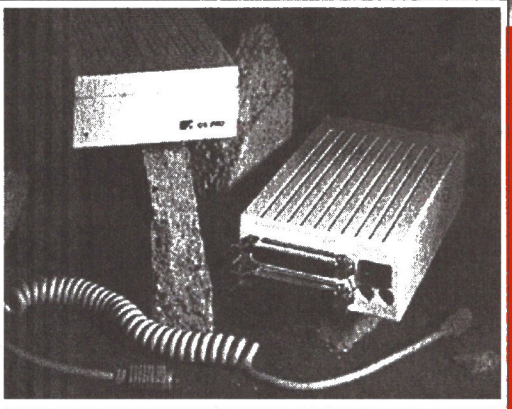

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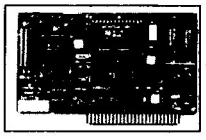

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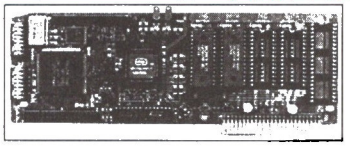

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How ICONed my Way to Kansas City & Lived to Tell About it

By Josef W. Wankerl

Ahhh, Kansas City. The city where people never sleep—at least not the attendees of KansasFest. Although the formal name of the show has been changed to "ICONference," the big shindig is still referred to fondly as "KansasFest." This year structured conferences were planned for two days, and one day was allocated for an unstructured "Mini-Expo." In the past, KansasFest was an Apple II-only event. This year the structure changed so that it was a *predominantly* Apple II event.

Day One

Thursday started off early, with breakfast served at 7:30 for those brave enough to actually arise from their beds. The conference then started at 9:00 with Tom Weishaar giving a brief welcome speech. Next came seminars on UNIX and the Internet by Jim Maricondo as well as a beginner's soldering course taught by Dave Ciotti.

The main event of the day was the introduction of the Mensch computer. The Mensch computer is a product designed by Bill Mensch, the designer of the 65816, which will be marketed as a consumer product. His vision is to have the Mensch computer be as indispensable as your ordinary household toaster or microwave oven. As for whether or not this will happen only time will tell. The Mensch computer is based on a W65C265 micro-controller chip. Inside the chip is a 65816 CPU, four built-in serial ports, eight 16-bit timers, RAM, and ROM. Basically, the entire chip is a very small, self-contained computer. By the time the Mensch computer presentation was over, it was time for lunch where entertainment was provided in the form of a friendly round of computer Jeopardy. (A strange group of people kept thinking the answers, or since it's Jeopardy, the questions, were all "Isaac Newton.")

After lunch, the individual seminars started on two tracks. One track had an overview of the new Macintosh System 7.5 by Mike Pruneau, UNIX and the Apple IIGS with GNO/ME by Jim Maricondo, a PowerPC overview by Mike Pruneau, and multimedia authoring on CD-ROM by Greg Nelson. The other track had development tools for the Mensch computer by Jihad Jaafar and Larry Hittel, Animasia 3-D by Michael Lutynski, Apple II interfacing by Erick Wagner, and looking good in print by Joe Kohn. And let me tell you, after all that, the buffet that followed was certainly welcome! During the buffet, entertainment was served up in the traditional form of "roasting" a well-known Apple II celebrity. This year, the victim was Mike Westerfield. "Burger" Bill Heineman, Greg Templeman, Jawaid Bazyar, Roger Wagner, and a surprise speaker, Nate Trost, all took turns giving Mike some good-natured heck about his compilers and development environment. Of course Mike had the chance to return the favor.

Tradition: Part One

It seems that some strange traditions simply *must* be honored in Kansas City. First off, the keynote speaker of the previous KansasFest is the poor soul who has to endure the celebrity roast. Another tradition is the "Bite The Bag" contest. For those of you who have not heard of this odd game, the rules are simple:

1) Bend over and pick a grocery sack off the ground with your teeth.

2) Only one appendage (arm or leg or whatever else qualifies) can be touching the floor when the bag is lifted off the ground.

Sure, this sounds simple enough, but go ahead and try it! After everyone playing has had their turn to lift the bag with their teeth, a few inches are ripped off the top of the bag and the next round begins. This year, the contest once again boiled down to three very talented bag biters: Paul Zaleski (last year's gold medal champion), Roger Wagner (who came in third last year), and myself (second place winner). Needless to say, competition is fierce in the bag biting business. The bag was all the way down to the bottom, so, as happened last year, the winner would be determined by who could lift the bag (which was by now just a strip of brown paper from the bottom of the bag) off the floor the fastest. This year's winner was Roger, followed in second place by myself, and third place went to Paul. Starting a new tradition this year, the winner was crowned in a coronation ceremony by the previous year's champion. The crown is a strip of the bag that was torn off. Also, during the bag biting contest, the players and all the spectators were treated to a round of pizzas, complements of Roger Wagner Publishing! That Roger sure is a nice guy.

Day Two

Friday started off just like Thrusday with the first real event of the day being the keynote address by Randy Brandt. Randy was supposed to give the keynote speech on Thursday, but the schedule was shuffled around at the last minute. Randy gave a nice exposition on his role in the world of the Apple II, his time at Beagle Bros., and finally he ended up announcing AppleWorks 5.0! (Just last year, AppleWorks 4.0 was the hot topic, so maybe next year we'll get 6.0?) The main event of the day then came with a sneak preview of Microsoft Windows 4.0 by Pat Wilson. A non-disclosure agreement was supposed to be signed by all who attended, but Pat decided that it wasn't necessary because he saw an article in a newspaper which detailed everything he was going to show. I personally have never liked the Windows environment, but with 4.0, I think that Microsoft has finally moved onto the right track. The software didn't work completely, but what did work looked like a very usable platform. At the same time as the Windows preview, there was a telecom scripting session being given by Nathaniel Sloan. After all the morning excitement, it was once again time for lunch.

After lunch, the individual seminars started again on two tracks. One track had sessions on HyperStudio as a development environment by Roger Wagner, Quick Click Calc with "publish and subscribe" programming details by Mike Westerfield, all about the Internet by Joe Kohn, and 3D technology using 3D-Logo by Mike Westerfield. The other track had Microsoft Office for Windows by Pat Wilson, and programming the Newton by none other than the ever-popular Josef Wankerl.

Tradition: Part Two

Dinner was then served, and another night of fun and games was to begin. It looks like I got to see the birth of yet another wonderful KansasFest tradition: Nerf gun

wars! Anyone who was so compelled and had some spare money and transportation took the trip down to the local HyperMart and picked up a Nerf weapon. Then, in the halls of the dormitory, a pack of crazy Nerf warriors roamed, blasting at anything and everything that moved. (My weapon was a simple dart gun type, with only three suction cup tipped darts, and I had to reload after each shot. Contrast this against the "Ballzooka" which had a magazine of fifteen Nerf balls and the ability for rapid fire! My weapon seemed to be a little more accurate, though.) One other tradition that started long ago is called "sitting on the wall." Basically, a group of people just go outside and sit on a nice terrace and chat. Of course the militant Nerfs just *had* to go and invade the serene wall sitting and "kill" its faithful leader: Dean Esmay. Dean took his death in stride, however. He actually had to die twice, as the surprise attack was re-enacted so the event could be captured on video tape. Without any other people to shoot, the Nerf warriors then took up dueling. Two people, each armed with a Ballzooka, stood back-to-back, took five paces, turned, and then fired until one died. After a while of this, I got tired and decided it would be a good idea to turn in for the night since I had to drive home the next day.

Day Three

Saturday started, well, by now you know how mornings at ICONference start. Instead of having seminars, Saturday consisted of a "mini-expo." Tables were set up and, if you had some product to show off, you could claim some table space and peddle your wares. This wasn't a full-fledged EXPO open to the general public, as there has been in years past. This time, it was small and only attendees of KansasFest attended, but it was still a good event. Alas, I had to leave early on Saturday and make my twelve hour drive back home.

So, Was It Worth It?

Absolutely! I've attended every single KansasFest except for the first one, and every single time I've had a blast! You get to see old friends and make new ones. You get to see what's happening in the Apple II world, and now, with the removal of the Apple II-only distinction, you even get to see into other computer worlds. In the past, there has always been some skepticism as to whether or not there will be a KansasFest in the year to come. This year was different: the answer is *yes* there will definitely be another! Ahhh, now I have to go into training for next year's bag biting and increase my stock of Nerf ammunition. *GS+*

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A Graphic Discussion

By Steven W. Disbrow

Ever since its introduction in the late 70's, the Apple II has been famous for its graphics. However, in the time since that introduction, the number of graphics file formats used by the Apple II has grown from just one or two, to more than a dozen. As a result, if you are a relatively new Apple II owner, trying to make sense of all these formats can be a real nightmare.

In this article (which, by the way, was suggested by one of our faithful readers), I'll discuss the history of Apple II graphics, the files they are kept in, how to identify those files, and the programs that you need to display the graphics in those files. I'll also touch on a few of the animation file formats that are used on the Apple II. And, of course, I'll try to give the whole thing a good IIGS-slant by discussing how to convert the non-IIGS-specific formats into something that can be easily used in desktop programs.

The Basics

First of all we need to go over the basics of just exactly what a graphic is, and how it's displayed on your IIGS. That should help you to better understand the remainder of this article.

A graphic is simply a stream of digital information that is run together to represent a picture. This information is copied to a special section of memory in your computer that is known as *screen memory*. What's special about screen memory is that everything that is held in it is displayed on the screen. The IIGS graphics hardware looks at the information stored in screen memory and uses it to determine whether or not to turn on the corresponding screen *pixel*. ("Pixel" is short for "picture element." Pixels are the little dots on the screen that make up everything you see on your IIGS.) So, to display a graphic that is in a file, your IIGS must load it from disk, and then copy it into screen memory. The contents of screen memory are then displayed on the screen by the graphics hardware, and you get to see the resulting graphic. (Note that this is a *very* over-simplified explanation!)

While this sounds like a simple process, it is complicated by the fact that the IIGS has a bunch of different *graphics modes* and the fact that there are a lot of different *graphic file formats* out there.

A "graphic mode" is a specific way that the IIGS displays its graphics. In each graphic mode, the IIGS has varying capabilities, and drawbacks, for displaying graphics. Depending on the graphic mode that the IIGS is operating in, the contents of screen memory will be interpreted differently.

For example, the IIGS has two "super high resolution" graphics modes: 640 mode and 320 mode. A full screen image in each of these modes takes up the same amount of screen memory. However, depending on the graphics mode, that information in screen memory is interpreted differently before it is shown on the screen. Specifically, in 640 mode the IIGS can display up to 640 pixels of information horizontally, and 200 pixels vertically; but it can only use one of four colors for any given pixel. In 320 mode the IIGS can display only 320 pixels horizontally, and 200 pixels vertically; but, it can use any one of 16 colors for each of these pixels. This means that 320 mode uses more of screen memory to specify colors, and 640 mode uses more of screen memory to allow for increased horizontal detail.

Now, obviously, each of these modes has its advantages (more detail in 640 mode and more colors in 320 mode), and disadvantages (fewer colors in 640 mode and less detail in 320 mode). What isn't obvious to most IIGS users is that a graphic that was designed in one mode can *not* be reliably used in another mode. For example, if you try to load a 320 mode graphic into a 640 mode program, at the very least, the colors will be messed up (640 mode just doesn't have enough colors available), and at the worst, the graphic will be distorted horizontally. Along the same lines, you can't just load an old Print Shop graphic into AppleWorks GS, it has to be converted into a 640 mode graphic first!

A "graphic file format" is simply the way that graphic information is stored in a file on disk. For example, the simplest graphic file format is simply a copy of the contents of screen memory. However, some more complicated formats use compression (to make the information smaller on disk), and a whole bunch of other techno-weenie junk that can make it a real hassle to take that information out of the file and turn it into a form that will make sense as a graphic. This all means that, for any given file format, a program *must* know how to interpret the information stored in that file before it can display it on the screen.

So, our simple task of loading a file from disk directly into screen memory has become a bit more complicated. Our graphics programs have to worry about the way the graphic is stored on disk, the graphic mode the IIGS is currently in, and the graphic mode the graphic was created for. And, to display a graphic properly (or *almost* properly), our graphics programs must be able to make sense of the contents of a graphics file, and then switch to the appropriate graphic mode or convert the graphics file to the current graphic mode. As you'll see shortly, with the variety of Apple IIGS graphic modes and file formats, this is no easy task!

Graphics Modes

In all, the IIGS has four basic graphic modes that it can use to display pictures: Lo-Res, Hi-Res, Double Hi-Res and Super Hi-Res. Three of these modes have two different "sub modes" that they can operate in. The name, resolution, and number of colors for each mode is shown in Table 1.

Lo-Res Mode

Lo-Res Mode is exactly that, *very* low resolution. However, in the earliest days of the Apple II (and, actually, personal computing) Lo-Res mode was hot stuff simply because it could display 16 colors. While other computers may have had higher resolutions, none had the same number of available colors. (Note that Double Hi-Res mode was not available until much later.)

Hi-Res Mode

While Lo-Res was colorful, it was Hi-Res mode that made the Apple II the huge hit that it was with the gamers (and educators). Even though it only offered four colors at any given time, a good programmer could dither those four colors to make it appear that more colors were available. And, for the time, the resolution was absolutely amazing, especially if you could settle for working with only black and white graphics.

Double Hi-Res Mode

Just a few months after Apple released the first Macintosh, there was this big Apple shin-dig in San Francisco. It was at this gathering that Apple introduced the slogan "Apple II Forever," and the Apple IIc. Among the IIc's bag of tricks was a new graphic mode called Double Hi-Res. (Well, it wasn't exactly new, it was also available on IIe's with Rev. B motherboards and 128K of RAM.) This mode combined the color selection of Lo-

Res, with the resolution of Hi-Res. And, if you didn't mind working in black and white, you could have twice the horizontal resolution! It was an amazing advancement for Apple II graphics—which almost no one used. The reasons that Double Hi-Res flopped were that it was a real demon to program, and Apple was literally begging developers to move to the Mac. So, few programmers spent a lot of time really digging into Double Hi-Res. Fortunately, something even better was just around the corner . . . .

Super Hi-Res Mode

When Apple released the IIGS in late 1986, they had already determined that the Macintosh desktop metaphor was going to be the future of Apple computing, regardless of whether or not you were using a Macintosh. So, towards that end, they equipped the newest Apple II with a new graphics mode, called Super Hi-Res, that would give it the resolution needed to actually display this interface. (However, they also determined that this would be an Apple II, so they gave it all of the older graphics modes as well.)

Super Hi-Res is actually two different modes: 640 mode and 320 mode. As discussed earlier, 640 mode has a higher horizontal resolution than 320 mode, but 320 mode has more colors available for display at any given time. Looking at Table 1, you might be thinking that these new modes don't offer much advantage, as far as resolution goes, over black and white Double Hi-Res mode. So, why then, did Apple invent these two new modes? Well, as I said earlier, Double Hi-Res is a real bear to program, and these new modes were designed from the ground up to be easy to program with. This made it a lot easier for Apple to create the graphics routines in the IIGS Toolbox, and it also makes life easier for all of the programmers outside of Apple. For another thing, in the time since the Double Hi-Res mode had been introduced, a couple of non-Apple computers, the Commodore Amiga and the Atari ST, had come out, each with graphics that made Double Hi-Res graphics look sickly. So, Apple was also playing catch up when they added the Super Hi-Res modes to the IIGS. (Unfortunately, catching up was about all they were trying to do. But, that's another article . . . .)

Now that we've taken a brief look at the different graphic modes of the IIGS, let's look at the files that pictures are stored in.

File Formats

On the IIGS, the contents of a file are determined by its file type and its auxiliary file type ("aux type" for short). The file type tells you *in general* what is contained in the file, and the aux type tells you *specifically* what is in the file. So, in the case of a graphics file, the file type will tell you the general type of the graphic (old Apple II graphic, IIGS picture, object oriented graphic, etc.), and the aux type will tell you the specific type of graphic in the file. So, with that in mind, let's look at the currently defined types of graphics files. (Note that in many cases, a file format is specific to a particular piece of software [i.e. SoftDisk screen images]. In these cases, you will most likely need to own that software to actually view the pictures stored in these file formats. In other cases, a conversion utility [which we will discuss later] might exist for that type of graphic. Also note that these descriptions are not intended to be at the down and dirty level that a programmer would need use these files. If you need that kind of detail, see the Apple II File Type Notes that are published by Apple.)

Apple II Graphics File

An Apple II Graphics file (file type $08 [all file types are in hexadecimal]), is a file that contains an Apple II (not IIGS) or Apple /// graphic. If the aux type is less than or equal to $3FFF, the picture contained in the file should be a standard picture in one of the Hi-Res or Double Hi-Res modes. It's up to an application to determine exactly *which* mode the picture is for by examining a specific byte of information inside the file. If you are using an older application to load this type of file, it might not do everything needed to correctly identify the file contents and load it properly. (In other words, you can't tell exactly what kind of picture is in one of these files just by looking at it from the Finder.) However, if the aux type of the file is $4000 or greater, you *can* tell exactly what is in the file, just by using the Finder's Icon Info menu item. Table 2 shows these aux types and the programs that you need to open these files. (Note that in some cases, pictures are "packed." This means that the IIGS `PackBytes` tool was used to compress the image data before it was saved to disk. This also means that only a IIGS utility can open these files.)

Drawing

A Drawing file (file type $53) contains, well, a drawing! In general, this means that the file contains more than just simple graphic information. For example, a Graphic Disk Labeler document (aux type $8002) contains information on the text that you want to appear on your disk label as well as the graphic (if any) that should appear on the label. So, this isn't a "graphic file" in the sense that we've discussed. But, since it does contain graphic information, I've included it (and several others) in this discussion.

Desktop Publishing

Desktop Publishing files (file type $54) contain text, graphics, and the formatting information required to place the text and graphics on one or more pages. Like a Drawing file, the contents of a Desktop Publishing file are *very* specific to the program that created them.

Animation File

An Animation file (file type $5B) can contain multiple graphics that are used to produce an animation. Here again, this is a format that is very specific to the program that creates the file. (Also see "PaintWorks Animation" files, below.)

Table 1
Apple IIGS Graphics Modes

Name	Horizontal Resolution	Vertical Resolution	Number of Pure Colors
Lo-Res†	40	48 (40)	16
Hi-Res Color†	140	192 (160)	4 (out of 6)
Hi-Res Black & White†	280	192 (160)	2
Double Hi-Res Color†	140	192 (160)	16
Double Hi-Res Black & White†	560	192 (160)	2
Super Hi-Res 320 mode	320	200	16 (out of 4,096)
Super Hi-Res 640 mode	640	200	4 (out of 4,096)

† - These modes can also work in what is called "mixed mode." Mixed mode places four lines of text at the bottom of the screen, effectively reducing the vertical resolution. These reduced vertical resolutions are shown in parenthesis.

Packed Super Hi-Res Picture

This format (file type $C0) is probably one of the two most commonly used IIGS graphics formats. Basically, it contains a IIGS screen image (which may or may not be larger than the screen itself) that has been compressed using one or more compression algorithms. The first of these formats was the PaintWorks Packed picture file (aux type $0000). It uses the IIGS tool `PackBytes` to compress the contents of the file. There are several compression schemes used by this type of file, and most of these files are readable by just about every IIGS paint program. One file format that is *not* readable by most IIGS programs is the GIF file format (aux type $8006). The GIF file format is not actually an Apple II format, but an industry wide standard for storing and sharing high resolution graphics ("GIF" stands for "Graphics Interchange Format"). As such, the contents of a GIF file were not intended for use in *any* of the Apple II's graphic modes. Fortunately, a number of GIF converters exist that will convert GIF files into a format that *can* be used with the Apple II.

Super Hi-Res Picture

This format (file type $C1) is another of the more popular IIGS formats. The main difference between this format and the "Packed Super Hi-Res picture" format, is that the picture data in these files is *not* compressed. However, many of the file formats for this type of file are application specific—so, not all of these formats can be read by most IIGS applications.

Looking at Table 2, you'll notice a format called a QuickDraw II PICT file. This is another one of those "does not contain actual graphic information" formats. Instead of containing the actual bits that make up a picture, a PICT file contains a recording of the actual QuickDraw II drawing commands that are required to recreate the picture. This makes it easy for a program to recreate a picture anywhere on the screen (or in a document). Unfortunately, very few IIGS programs take advantage of this format.

PaintWorks Animation

IIGS old-timers may remember that one of the first desktop-based, IIGS-specific programs that came out was a paint program called PaintWorks. One of the neat things about PaintWorks was that you could use it to string several pictures together to create an animation. These animation files are stored in files called (oddly enough) PaintWorks Animation files (file type $C2). These days, just about every IIGS paint program can read and play PaintWorks Animation files. And, several programs exist (like our own FLI Convert) that will take an animation

Table 2
Apple II Graphic File Formats

Name	File Type	Aux Type	Contents
Apple II Graphics File	$08	$0000-$3FFF	Apple II or /// Graphics file
		$4000	Packed Hi-Res image
		$4001	Packed Double Hi-Res image
		$8001	Printographer Packed Hi-Res image
		$8002	Printographer Packed Double Hi-Res image
		$8003	SoftDisk Hi-Res image
		$8004	SoftDisk Double Hi-Res image
Drawing	$53	$8002	Graphic Disk Labeler document
		$8010	AppleWorks GS Graphics
Desktop Publishing	$54	$8002	GraphicWriter document
		$8003	Label It document
		$8010	AppleWorks GS Page Layout
		$DD3E	Medley document
Animation File	$5B	$8001	Cartooners movie
		$8002	Cartooners actors
		$8005	Arcade King Super document
		$8006	Arcade King Double Hi-Res document
		$8007	DreamVision movie
Packed Super Hi-Res Picture	$C0	$0000	PaintWorks Packed picture
		$0001	Packed Super Hi-Res image
		$0002	Apple Preferred Format picture
		$0003	Packed QuickDraw II PICT file
		$8001	GTv background image
		$8005	DreamGrafix document (compressed)
		$8006	GIF document
Super Hi-Res Picture	$C1	$0000	Super Hi-Res screen image
		$0001	QuickDraw II PICT file
		$0002	Super Hi-Res 3,200 color screen image
		$8001	Allison raw image data
		$8003	DreamGrafix document (uncompressed)
PaintWorks Animation file	$C2	$0000	PaintWorks Animation frames
PaintWorks Palette file	$C3	$0000	PaintWorks color palette information
Object Oriented Graphics file	$C5	$8000	Draw Plus document
		$C000	Design Your Own Home: Architecture document
		$C001	Design Your Own Home: predrawn objects
		$C002	Design Your Own Home: custom objects
		$C003	Design Your Own Home: clipboard
		$C006	Design Your Own Home: Landscape document
		$C007	PyWare document

from another computer platform and convert it into a PaintWorks Animation that you can then play on your IIGS. (If you were wondering, "FLI" is a file format that is used to store animations on the IBM PC. For more information, see the "FLI Convert" article in *GS+* V5.N5.)

PaintWorks Palette

This is another graphic file format that doesn't actually contain a graphic. A PaintWorks Palette file (file type $C3) actually contains color table information for use by the PaintWorks application. Since a graphic's color table information is *usually* saved with the graphic, very few (if any) paint programs actually use these files at all.

Object Oriented Graphics

Here again we have another file that doesn't contain actual graphic image data, but a set of instructions for recreating the image. Object Oriented Graphic files (file type $C5) simply contain the commands that an application can use to redraw the objects that a user has drawn on the screen. So, for example, instead of a bunch of binary information describing a rectangle filled with blue, one of these files would contain a series of commands that tell an application to move to a certain position, set the fill color to blue, and then draw a rectangle 30 pixels wide and 20 pixels tall. Depending on the means used to specify these commands, this can take up a lot less, or more, space on disk. Usually, it's a lot less. Another advantage of object oriented graphics is that, these graphic objects can be resized, moved, and otherwise messed with without destroying any of the other graphic objects in the file.

Unfortunately, just about every program that creates object oriented graphics stores them in their own special way, so you can't really open files created by one program with another.

Conversion Utilities

By now, it should be pretty obvious that the only way to *guarantee* that you will be able to view a graphic is to actually have the application that created it. However, that's not always possible, so you'll probably want to use a graphics conversion utility.

At this time, there are three general-purpose commercial graphics conversion utilities available for the IIGS. These are: Super Convert (Seven Hills Software, 904-575-0566, see review in *GS+* V3.N3), The Graphic Exchange (Roger Wagner Publishing, 619-442-0522) and Prism (Other World Computing, 815-338-8746, see review in *GS+* V5.N2). All of these programs will load, convert and display various Apple II, and non-Apple II graphics files. Each also allows you to fine-tune the conversion process for the best possible results. After you have the graphic looking its best on your IIGS, you can then save it in a standard IIGS format, for easy retrieval in the future.

In addition to these general purpose programs, there are various and sundry programs out there that convert a specific format to something that the IIGS can use. For example, there are dozens of public domain and shareware programs that let you convert GIF files for use on the IIGS. And, as mentioned before, in *GS+* V5.N5, we published a program called FLI Convert that will convert FLI animations created on the IBM PC into PaintWorks Animations that you can use on the IIGS.

Let's Wrap It Up!

In summary, here's what to do if you have a graphic you want to view:

- In the Finder, use the Icon Info menu item to find out what type of file the graphic is stored in.

- Look in Table 2 of this article and see if you have the application that created the graphic. If you do, run the application and load the graphic.

- If you don't have the appropriate application, check the documentation of the graphics applications you *do* have to see if any of them will load the file. If an application will, run that application and load the file according to the instructions in the manual.

- If you *don't* have an appropriate application, either start searching online for a conversion utility, or call one of the companies listed in the "Conversion Utilities" section of this article and ask them if their program works on that type of graphic. If it will, buy it!

Graphics Are <Censored> Cool!

So, there you have it, a fairly complete (I hope) primer on IIGS graphic modes and graphic file types. Armed with this knowledge, you should be able to at least figure out *why* you *can't* view a certain graphic. Hopefully though, I've given you the basic information you need to know when you have a graphic that you want to view, but can't.

If you have any further questions about this topic, or if I screwed something up in this article, let me know! I'd also be interested in finding out if there are any other subjects (sound or music file formats, etc.) that you would like to have covered in a similar article. *GS+*

GS+ Classifieds

For Sale:

Apple IIGS computer system in immaculate condition: ROM 03, 5MB RAM, 8MHz ZipGSX, 120MB/10ms TMS Quantum hard drive w/256K RamFAST/SCSI controller card, 3.5-inch and 5.25-inch drives, Æ DataLink Express 2400 baud modem w/MNP-5 and Send-FAX, Æ Conserver, Apple RGB monitor w/anti-glare/radiation/static screen, ImageWriter LQ printer w/eight 4-color and eight black ribbons, software. Asking $3,000.

Contact:
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P. O. Box 730
Grand Forks, BC
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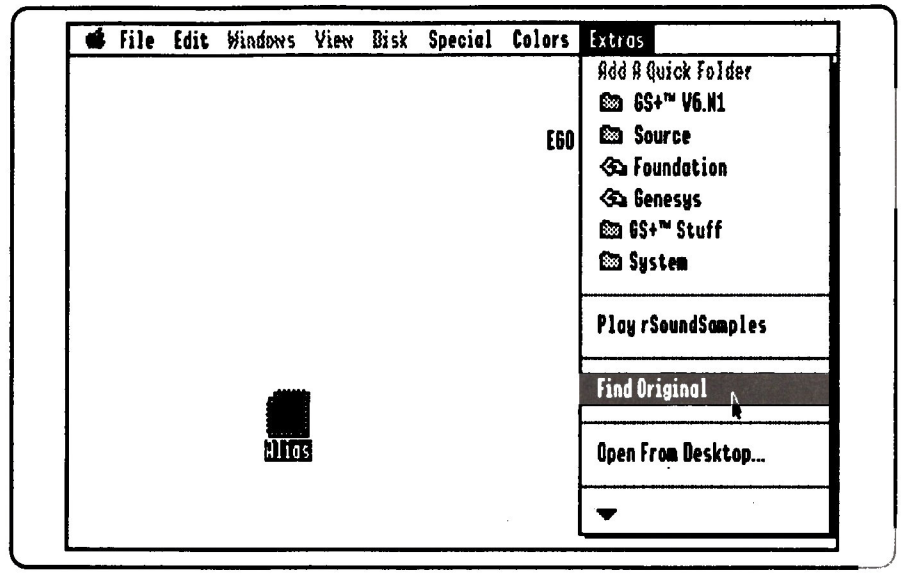
Readers can place an ad in the *GS+* Classifieds for only $5. This cost buys 25 words in one issue of *GS+* Magazine. Additional words are just 25 cents each. The *GS+* Classifieds are a great way to contact thousands of other IIGS owners.

The deadline for inclusion of a classified ad in the next issue (Volume 6, Number 2) of *GS+* Magazine is October 17, 1994. Simply send your ad along with your name, address, phone number, number of issues to run, and payment (made payable to "EGO Systems") to *GS+* Classifieds, P. O. Box 15366, Chattanooga, TN 37415-0366; or call us at (615) 332-2087, Monday through Friday between 9 a.m. and 5 p.m. Eastern Time, to place an ad with your MasterCard or VISA. You can also FAX us your classified ad by calling (615) 332-2634.

Find Original

By Josef W. Wankerl

When System 6 arrived on the scene, a new system extension, EasyMount, allowed users to create an alias to their file servers. Simply opening the alias file would mount the server and bypass the need to go into the AppleShare control panel. When System 6.0.1 arrived on the scene, EasyMount was enhanced to create aliases which pointed to hard drives, folders, and applications. Simply opening the alias file would open the hard drive, folder, or launch the corresponding application. Alias files are a great concept, but after a while, you tend to forget where the actual items alias files point to are! Macintosh users have had the ability to find what their alias files point to built right into the Finder. (With the Mac, there's a Find Original button when you get information on an alias file.) To aid in finding out what alias files point to on your IIGS, I wrote Find Original.



Finding Originals

Find Original is a Finder extension which appears in the Finder's "Extras" menu. When an alias file is selected, the Find Original menu item is enabled. When you choose the Find Original menu item, the file that the alias points to is found. The folder containing the original file is opened and the file is selected. Pretty simple, eh? That's all you need to know in order to use Find Original.

EasyMount Documents

I wanted to release Find Original many, many, many, months ago. Unfortunately, the file format for EasyMount documents (otherwise known as alias files) wasn't complete. Finally, after a few unanswered e-mails to friends at Apple, I got fed up with not knowing and took apart a few alias files to see what made them tick. The first part of an alias file is documented in a file type note which is on your *GS+* Disk. However, with System 6.0.1, there is more information in an alias file than is described in the file type note. After tinkering with the alias files for a while, I'm pretty sure I know what the rest of the file description is. Immediately following the documented content of an alias file there is a word which specifies whether the alias points to an item on a local disk or on a server. If the alias points to an item on a local disk, the word is $0001. If the alias points to an item on a server volume, the word is $0002. Following the local/server word is a complete pathname to the item the alias points to.

Finding Originals

Now, with the EasyMount document file contents known, it was pretty simple to extract the pathname to the original item. From there, the window which contains the item is opened, and then the item is selected by sending a few requests to the Finder.

That's everything to Find Original. Not having to remember exactly where your original files are can be a great burden lifted from your shoulders! *GS+*

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Well, don't forget to tell us! The Post Office does not normally forward Third-Class mail (they simply destroy it!), and we can't afford to replace magazines that were lost because a subscriber forgot to send us a change of address! If you miss an issue, we will extend your subscription, but you will have to buy the missed issue as a back issue! So, to avoid this hassle, send us a change of address as soon as you know your new address!

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America Online, Isn't

As many of you know by now, effective November 1, 1994, America Online, Inc. will no longer be welcoming Apple II or IIGS users on their system. So, we have asked representatives of both DELPHI and GEnie to put together a short essay (an "advertorial" if you will) explaining the virtues of each system and why you should switch to them from America Online. So, here they are!

DELPHI

America Online is gone, and you are at loose ends, looking for an online service to fulfill your needs. And the field seems to be narrowing. As Karl Malden would say, "What will you do? What will you do?"

There are several points you should consider when choosing an online service, and the point nearest and dearest to most of our hearts is money. That's right, what online service is going to give you the most bang for your buck?

DELPHI has that sewn up. Regardless of any temporary special deals offered by other services, DELPHI simply offers the most online time for the money of any major online service. DELPHI's 20/20 plan costs users $20 a month, and for that $20 you get 20 hours of online time. And extra off-peak hours under this plan cost only $1.80. There is also the 10/4 plan, where for $10 a month you get four hours of online time, and extra off-peak hours cost $4.00. Compare that with what other services charge, and you will find that hour for hour, DELPHI is definitely the least expensive.

Since 1991, the Apple II Special Interest Group (SIG) on DELPHI has maintained a database of all the best, most up-to-date, and recently released files. While seemingly not as extensive as some databases found on other services, the DELPHI Apple II database isn't filled out with pages and pages of logs from conferences or BBS threads. The Apple II SIG also offers access to some of the industry's best known developers, from Morgan Davis Group to Seven Hills.

Accessing DELPHI is easy—not only can you dial in at 9600 bps (if your local access number supports it) with no surcharge, you can also use the Internet and telnet directly in. Just use your favorite Internet provider and from the shell, enter "telnet delphi.com". From there, it looks just like your regular dial up access.

No other major online service gives you total access to the Internet, and with a charge of only $3 per month in addition to basic DELPHI charges, it's an even better deal. You can access any Internet feature: FTP, IRC, archie, gopher, etc from DELPHI. In fact, the Apple II SIG gopher menu has received high praise from other gopher managers. And you can telnet into DELPHI any time of day with no surcharge—telnet in at noon costs the same as dialing in at midnight!

Finally, if you are curious, you can try all this out, free of charge. Yes, Free! Dial by modem 800-695-4002. At the "USERNAME" prompt, enter "JOINDELPHI". (Don't type the quotes!) At the Password Prompt, enter "APPLEIISIG". Follow the menus and you will receive five hours of DELPHI online time—free!

GEnie

Those of us who run the Apple II RoundTables on GEnie are sorry to see America Online ending support the Apple II. It's sad to see a company like America Online trying to talk us into abandoning our machines. But there's an alternative you may want to try: The Apple II RoundTables on GEnie (A2 & A2Pro).

A2 & A2Pro have been actively involved in supporting the Apple II since before America Online even existed. While we've never had the high visibility or advertising might of America Online, Inc., over the years we've garnered a reputation as having the best Apple II support available anywhere. *inCider/A+* magazine said as much themselves not so long ago. So did Apple Computer, Inc., when they awarded us the last Apple II Achievement Award for best on-line service. Apple Computer also recognized our service to the Apple II community recently, when they turned over responsibility for file type assignment, sound ID assignment, font ID assignment, and other Apple II development services to A2Pro on GEnie.

Despite the fact that it's cheaper than America Online ($3.00/hour), GEnie has gotten a reputation for not being as good a service because of its user interface. Well, some folks actually like our interface, but for others, we recently released Co-Pilot 2.5, a massively improved, GS/OS compatible, fully desktop-based, *free* navigator that works with Spectrum, ProTerm, and Talk Is Cheap (special versions for ANSITerm and Point To Point are available too). And if that's not enough for you, we're currently beta testing a stand-alone front end for the IIGS, which looks and feels similar to America Online's software, but is fully desktop based; we're hoping to make it generally available by the end of this year.

SyndiComm, Inc., the company that runs A2 & A2Pro on GEnie, is one of the few businesses left fully supporting the Apple II. We have every intention of continuing to support the Apple II until well into the 21st Century. We'd like your support in return. We'll even give you a *$50 credit* if you sign up now using our special America Online offer code. And if you need modem software, we can get you copies of ProTerm, Spectrum, or Talk Is Cheap at massively discounted special prices. If you have any questions on our special deals, or need help signing up, just write to us on GEnie at A2.HELP, or use America Online's Internet gateway to reach us at a2.help@genie.geis.com). Or, see below for general signup information.

To some people, the term "Apple II Forever" still means something. It sure does still mean something to those of us who are on GEnie. Won't you join us?

Here are the sign-up steps which will get you started on GEnie. This offer will cost you your first month's fee of $8.95, which includes your first four hours of connect charges. It also includes a $50 credit, which you can use anywhere on GEnie. To sign up now, just take the following steps:

1. Set your communications software for half-duplex (local echo) at 300, 1200, or 2400 baud. The recommended communications parameters are: 8 data bits, no parity and 1 stop bit.

2. Dial toll-free in the U.S. at 1-800-638-8369 (or in Canada at 1-800-387-8330). Upon connection, type "HHH" (Please note: every time you use GEnie, you need to enter the "HHH" upon connection. And don't type the quotes!)

3. At the U#= prompt, type "JOINGENIE" and press <Return>

4. At the offer code prompt enter "DHG528" to get this special offer.

5. Have a major credit card ready. In the U.S., you may also use your checking account number. (There is a $2.00 monthly fee for all checking accounts.) In Canada, VISA & MasterCard only. *GS+*

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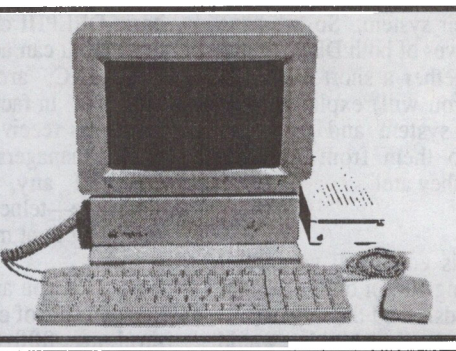

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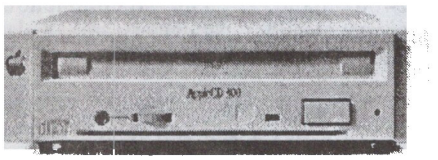

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Rumors, Wishes & Blatant Lies

By Prof. G. S. Gumby

AutoArk Update

So, just what is the deal with the AutoArk update? Even my boss won't tell me, but I have caught a few glimpses of the new version over his shoulder. From what I could see, the nasty conflicts with the System 6.0.1 Finder have been fixed, and you can now specify an application other than the Finder as the place where AutoArk will recompress all of the compressed files you opened. I've also been in on some of the meetings where the boss man has been trying to set a price for the update. One of the biggest expenses in the cost of the update is that we will have to pay a licence fee for the compression technology, so that drives the price up. But, the update *should* still be under $10.

The Universe? Mastered It.

And, since we are talking about AutoArk, what about Universe Master? Well, the official word from our peerless publisher is that he and ECON are "discussing" the possibility of EGO Systems acquiring Universe Master. But, nothing has been decided upon yet. (Actually, I think everyone involved just wants to get AutoArk out the door first!) Stay tuned.

Tung Ties

Good Lord! I just realized that I forgot to tell Joe to come back from the ICONference with a Roger Wager tie report! (Actually, I've heard that Roger only wore boxer shorts during the show, but that they did have little ties on them.) Whatever will I do to fill up my allotted "Roger Wagner free plug space" in this issue? This is worse than that time I had to be nice to an Applied Engineering representative! This is even worse than that time I got stuck in an elevator with Paul Statt and Joe Kohn, and they were discussing where to get dinner! ("How's about Chinese?" "Nah." "How about Italian?" "Nah." "How about we just eat these PEZ that I found in Heineman's room?" "Yummy!") This is worse than that time that .... Well, what do you know! I've filled up all the space!

Slightly Less Than Forever

Not satisfied that they had run out of Apple II products to discontinue, Apple Computer recently announced that they would be "discontinuing the discontinuation of the Apple II." When it was pointed out that this is a double-negative that effectively means that they will be *re*continuing the Apple II, an Apple spokesman replied, "Pffft."

Virtually True

A couple of issues ago, I told you about the IIGS emulator for the PowerMac that was supposedly being developed by some ex-Apple II engineers inside Apple. Apparently, that project has been going nowhere fast, so a group of IIGS programmers has gotten together to do the job themselves. They are calling it the "Virtual GS" project, and you can eavesdrop on their progress by joining the "comp.emulators.apple2" newsgroup on the Internet.

Top of Page, Word 5

While teams of IIGS programmers are organizing on the Internet, another team of programmers is pulling itself together for an even more ambitious project. Many of the members of this team were involved in the old "Duet" card that never quite made it to market. (The Duet was a "Mac on a card" for the IIGS.) Their goal? To create a PowerMac emulator *for the IIGS!*

I Don't Believe This One Myself

... But, this is 100% true! Apple dealers are apparently *still* providing the ROM 01 upgrade for owners of the original ROM 00 IIGS! So, if you know someone with a ROM 00 IIGS, point out to them that they need this upgrade to run all current IIGS software, and that it's a free upgrade.

Steal *This*, Buddy!

Well, if you are one of the few people that hasn't seen a beta copy the new Mac System 7.5, you'll be thrilled to know that several more great IIGS innovations have made their way onto the Macintosh. (Remember how thrilled Mac owners where when they got a **Fonts** folder with System 7.1?) Here are just a few of the things that were "lifted" from the Apple IIGS for the Macintosh:

- A thermometer that actually bears some relation to the boot process
- An 8-bit, text-based environment that allows Mac users to run those old text-based Mac programs (Word 1.0, etc.)
- Andy Nicholas, Dave Lyons, etc.

Ask Mr. 8-Ball!

It's that time again kiddies! I've run out of time to confirm all of the rumors I've gotten, so I turn to my best and most-reliable source: Mr. 8-Ball!

Gumby: Is it true that TimeWorks (the publisher of Publish It!) has gone out of business?
8-Ball: Without a doubt.

Gumby: Is it true that the next installment in Byte Works "Quick Click" series will be called "Astrologer?"
8-Ball: Yes. Definitely.

Gumby: Dean Esmay has left *SoftDisk G-S* and has gotten a job with *II Alive*. Does this spell doom for yet another Apple II publication?
8-Ball: You may rely on it.

Gumby: Isn't it true that our publisher really had to raise subscription rates to support his wife's "Magic: The Gathering" habit?
8-Ball: As I see it, yes.

That's all for now folks! Just remember, just because you made it up, it doesn't mean that it isn't true! *GS+*

Top 10 Things To Do At The ICONference

10. Focus fuzzy IIGS monitors
9. Tell how your trip to Kansas was longer and harder than everybody elses'
8. Roam the catacombs aimlessly
7. Only dream about sleeping
6. Make absolutely no shaving jokes
5. Try to think up things for this stupid list
4. Smile for Roger Wagner's QuickTake camera
3. Surf the Internet
2. Bite the bag
1. Buy a Nerf™ gun. Shoot Dean Esmay. Reload. Repeat.

Top 10 Applications of The New Mensch Computer

1. Toast Ejection Controller
2. Smoke Detector Battery Monitor
3. Automatic Lazy Boy Activator
4. Magic Fingers Control
5. Top Ten List Sorter
6. Refigerator Temperature Monitor
7. Litter Box Odor Monitor
8. Remote Control for Shower Radio
9. Robotic Shoe Shine (Shoe polish not included)
10. Digital Toilet (Not yet UL approved)

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) 332-2087. 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 fron EGOed lite or any other desktop progran when using an 800K, System 6.0 boo disk. (There isn't enough room for all o the required drivers and control panels.)

If you want to save even *more* space, yo might want to consider using Autopilo (from *GS+* V4.N1) as a replacemen program launcher. With Autopilo installed on the minimal System 6.0. boot disk, initial free space goes up fron 26K to 163K! You can then us Autopilot to autolaunch the Finder from second 3.5-inch disk drive and still hav plenty of room on your boot disk for lot of system extensions. For mor information on Autopilot, refer to th "Autopilot v2.0" article in *GS+* V4.N1 o give us a call.

Self-Extracting Archive

We use GS-ShrinkIt v1.1 to compress th *source code* and related files on the *GS+* Disk into a *self-extracting archive.* T extract the files from the archive, simpl double-click on the **GSP.V6.N1.SE** program on your backup *GS+* Disk. ***Yo do not need to have a copy GS-Shrinkl in order to use any of the programs o other materials on this GS+ Disk***

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

However, you will gain better control over the files you wish to extract if you have GS-ShrinkIt v1.1. If you do not have GS-ShrinkIt v1.1 and you would like a copy, check with your local user group or give us a call here at *GS+* Magazine 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 out about it 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.V6.N1.SEA

This is a self-extracting archive (SEA) containing the source code and related files for all the programs contained on this *GS+* Disk. 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 EGOed lite, Find Original, Scrapie, Table Scraps and What To Do programs. Also in this folder is a sample Scrapbook file. The Scrapbook file contains sample scraps for the Table Scraps 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 view it with EGOed lite or the Teach application. *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+*

Ultima I - *The First Age of Darkness*

For the IIgs

Under license from Electronic Arts®, Vitesse proudly presents Ultima® I, The First Age of Darkness. This original classic, previously available only for the Apple II, is now available for the Apple IIgs. In addition, this version includes several new features that exploit the capabilities of the IIgs to bring you enhanced music, sound, and graphics.

Ultima I is a fantasy roll-playing game that allows you to enter the ancient world of Sosaria, a once beautiful realm now scourged and plundered by evil, bloodthirsty beasts and creatures. At the root of all this wickedness is Mondain the Wizard, who unleashes his terror unceasingly upon the land. You must aid the inhabitants of Sosaria by slaying the evil Mondain. You may travel as one of four professions: fighter, cleric, wizard, or thief. You may also adjust various characteristics including strength, agility, stamina, charisma, wisdom, and intelligence. You may then enter the world of Sosaria, where you can interact with others, pick up and carry or examine objects, and combat beasts and monsters.

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NEW!Ultima I requires an Apple IIgs, GS/OS 5.0.4, or later, and a minimum of 1MB RAM.
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Reviews

DiscQuest Encyclopedia

By Jawaid Bazyar

Pricing:
DiscQuest Encyclopedia Software - $179.95 ($159.95). Includes Compton's New Century Encyclopedia CD-ROM.

DiscQuest Encyclopedia Bundle - $699 ($599). Includes the DiscQuest Encyclopedia Software, Compton's New Century Encyclopedia CD-ROM, a RamFAST SCSI controller card, and a DiscQuest CD210 double-speed CD-ROM drive.

Prices in parenthesis indicate introductory prices. Contact Sequential Systems for details on these prices and educational discounts.

RamFAST ROM updates to version 3.01E:
For Rev C RamFAST - $15
For Rev D RamFAST - $9.50

Not copy protected
Requires 2MB RAM, one 3.5-inch drive, SCSI interface, CD-ROM drive, System 6 or later. More memory and a hard drive are *strongly* recommended. Headphones and/or powered speakers are recommended for listening to audio from CD-ROMs. RamFAST users must have ROM version 3.01E.

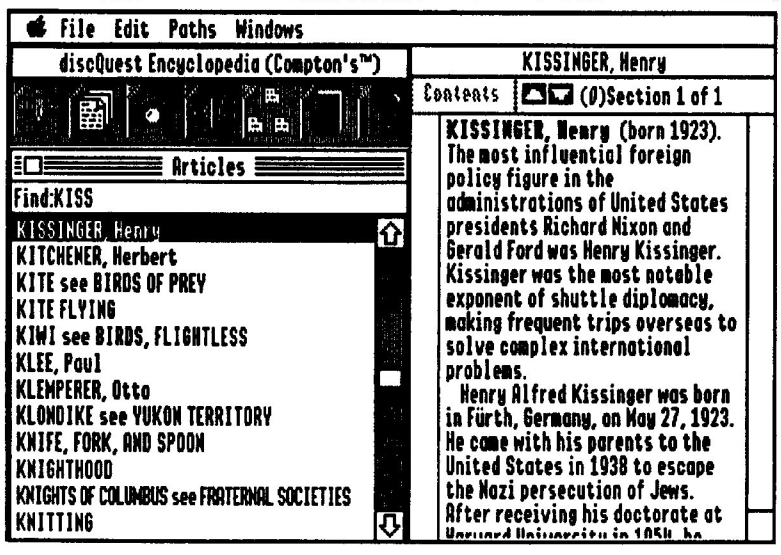
Sequential Systems
1200 Diamond Circle
Lafayette, CO 80026
(303) 666-4549
(800) 759-4549

Reviewed by Steven W. Disbrow

As I've mentioned on a couple of occasions, I've spent a large part of the last five years explaining to people exactly *why* the IIGS could not use CD-ROMs developed for the Mac or PC. The main reason is that the data on these disks was in a format (or formats) that no IIGS program could read. What was needed was a IIGS program that was intended specifically to read these data formats and then present the information on the IIGS screen. This is *not* a trivial thing to do, so it was a couple of years before anyone actually did anything about it. Fortunately, someone *did* eventually do something about it, and the result was Sequential System's excellent DiscQuest program. This program gives IIGS owners access to Mac and PC CD-ROMs that follow the DiscPassage standard. (For more information on DiscQuest and the DiscPassage standard, see my review of DiscQuest in *GS+* V5.N5.)

However, almost as soon as DiscQuest appeared, people began calling and asking if it would allow them to use any of the encyclopedia CD-ROMs that were out there. As far as I know, there aren't any Encyclopedia CD-ROMs that use the DiscPassage standard, so, sadly, the answer was "no."

But, as is usually the case with Sequential Systems, they were listening to their customers, and working secretly on a special version of the DiscQuest software that would allow access to an encyclopedia CD-ROM. The result is the DiscQuest Encyclopedia, which allows Apple IIGS owners to actually make use of the Compton's New Century Encyclopedia CD-ROM.



Two In One

Unlike the original DiscQuest software (which, by the way, is a separate product), the DiscQuest Encyclopedia package is actually two products bundled together: The DiscQuest Encyclopedia "front-end" software, and the Compton's New Century Encyclopedia CD-ROM. So, I'll address each product separately in this review. (After all, no matter how good the interface software is, it won't be worth having if the encyclopedia is a piece of garbage.)

The Interface

Overall, the interface used by the DiscQuest Encyclopedia (DQE) software is quite a bit different from the interface used by the original DiscQuest (DQ). Instead of the simple directory listings used by the original, DQE breaks information up by its type (i.e. text articles, sounds and pictures) and allows you to browse and search for information within (and across) those types in a non-linear, idea-oriented fashion. (DQE refers to these divisions of information as "paths" that you can search.)

For example, if you wanted to see all of the articles on "space," you would simply pick Articles from the DQE Paths menu, and then type "SPACE". This will bring up the Articles window (which contains an alphabetical listing of all articles on the CD-ROM), and select the first article that begins with the letters "SPACE". Then, to actually read that article, you simply press the return key. You can search for sounds and pictures in the same way—simply pick the appropriate item from the Paths menu, and type the first few characters of whatever it is you're looking for. When you have the appropriate item selected, just press return, and the picture will be shown or the sound played.

In addition to the Paths menu, DQE also lets you access information by clicking on one of seven icons in the Paths window. Each of these icons (except for the Help icon) corresponds to an item in the Paths menu and has the same effect when you select it.

We're All Brothers

While you can peruse pictures and sounds without having to actually read anything, it's the articles that are the heart and soul of any good encyclopedia. DQE builds on this fact and uses the encyclopedia articles as the link between various types of related information. So, while you are

reading any given article, DQE will also display tiny icons that represent the pictures, sounds, figures, tables, and other articles that are related to the text you are currently reading. All you have to do to get to one of these related items is click on the icon.

If this sounds like a pretty easy way to move around, it is. While preparing for this review, I decided to just sit down and *read* as much stuff as I could from the encyclopedia. I started out reading about human sexuality and ended up on Charon, the moon of Pluto! (I think I got there by way of Venus.) As you can see, it's very easy to move from one subject to another—sometimes, it's too easy!

Down and Dirty

While the DQE interface makes it extremely easy to navigate the information in the encyclopedia, there are a few problems with this first version of the program that can trip you up until you get used to them.

First of all, not all of the paths that you are presented with are actually available to you! For example, if you select Idea Search from the Paths menu, nothing happens. If you click on the Idea Search icon in the Paths window, you get a dialog telling you that this is a feature that has not been implemented yet! The same thing happens when you try to use the Topic Tree, the Dictionary and the Help system! This is very disappointing, because all it leaves you is the Article, Picture and Sound search paths. This isn't to say that these paths don't let you access most of what's in the encyclopedia, they do. But, I wish these buttons and menu items weren't there to taunt me every time I run the software.

Picture This

Another problem is that, if you look at a lot of pictures, one after the other, DQE will eventually stop showing you pictures, and just show you a black screen. The only way to fix this is to quit the program and run it again. (Luckily, you don't have to reboot!) Another problem with the pictures is that, for some very tall pictures, the bottom of the image is cut off. But, this only happens with images that are more than 500 lines high, so it's fairly rare. About the only other complaint I have with the way DQE handles pictures is that when you view a picture, it takes over the whole screen. Personally, I'd much rather have pictures displayed in a window, with the option to make them full screen.

While it may sound like I'm unhappy with DQE's graphics, this is *not* the case. In fact, the picture display quality of DQE is *much* better than the display quality of the original DQ. According to Jawaid at Sequential Systems, it's nothing that he did, it's just that the pictures on the Compton's Encyclopedia were intended to be displayed on a variety of video hardware, including hardware that can only display 16 colors at a time (like the IIGS). Thus, the pictures from this CD look a *lot* better than those from any of the ordinary DQ titles.

Sound It Out

Unfortunately, one change from DQ to DQE is that sounds are played through the IIGS speaker (ick!) instead of coming from the CD-ROM drive's headphone jack. This is because all of the sounds on the Compton's Encyclopedia are digitized sounds and not actual audio tracks on the CD-ROM. So, the sounds have to be loaded from the disk, and then converted and played by the IIGS. (A side effect of this is that sounds do *not* play in the background as they do in the original DQ software.) The problem is that the IIGS speaker is really horrid for this sort of thing. (At least mine is!) However, if you plug your headphones or speakers into your stereo card (or even into the speaker jack on the back of the IIGS), the sound should be acceptable.

On the plus side, DQE *does* allow you to easily view (and play) *all* of the sounds on the disk, just by opening the Sounds window from the Paths menu. This is extremely nice.

No Puns For Text!

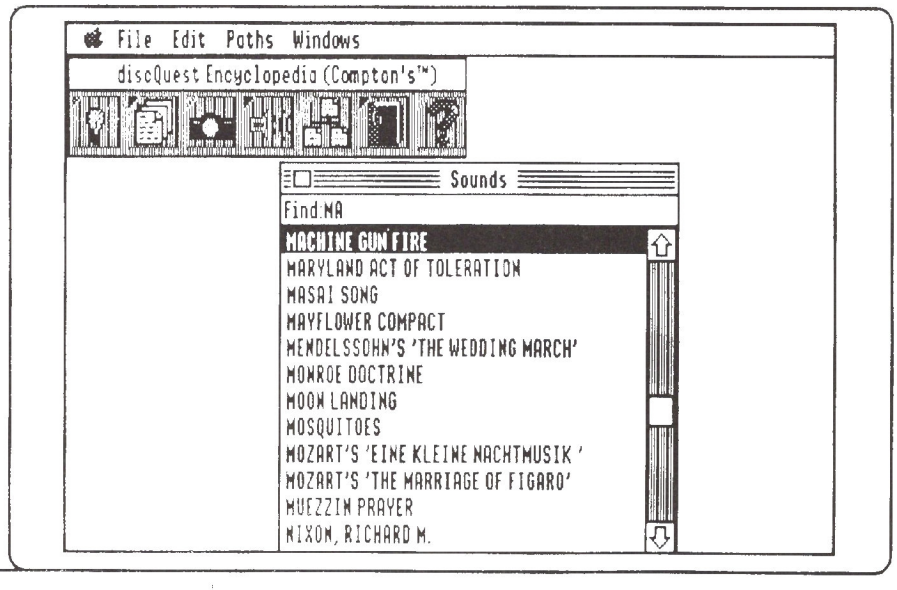
When displaying articles, DQE tries to retain as much of the formatting (styles and spacing only) that were in the original articles as it can. This means articles can have bold headings to catch your eye, and tables are displayed with their columns intact. It's little touches like these that add to the professional feel of DQE and elevate it above the simple (yet effective) "text dump" approach that the original DQ took.

One other nice touch of DQE is that you can select any of the text in any article and Copy it to the Clipboard for Pasting into your other applications. Unfortunately, you can also delete that selected text out of the article if you are not careful! While this will not harm the information stored on the CD-ROM, it is annoying to have to close the article window and then re-open it in order to be able to get the full text of the article back.

Finally, DQE also allows you to print out any article or picture that you want to. Unfortunately, this ability to print out information does not extend to the tables that accompany many of the articles. But, if that tiny omission bothers you, consider that the Macintosh version of Compton's Encyclopedia won't print out pictures at all!

General Stuff

Beyond these things, I only found two minor problems in the DQE interface. First, when you type into the "Find" field, the first key you press will sometimes "bounce" (i.e. you type "A" and you get "AA"). The only way to get around this is to backspace and fix the mistake. Second, the various Path windows are too narrow to hold the titles of some the Articles, Sounds and Pictures in the encyclopedia. If these windows were just a bit wider (or you could simply resize them), it would be much easier to read the whole title and determine if you want to actually look at (or listen to) the item in question.



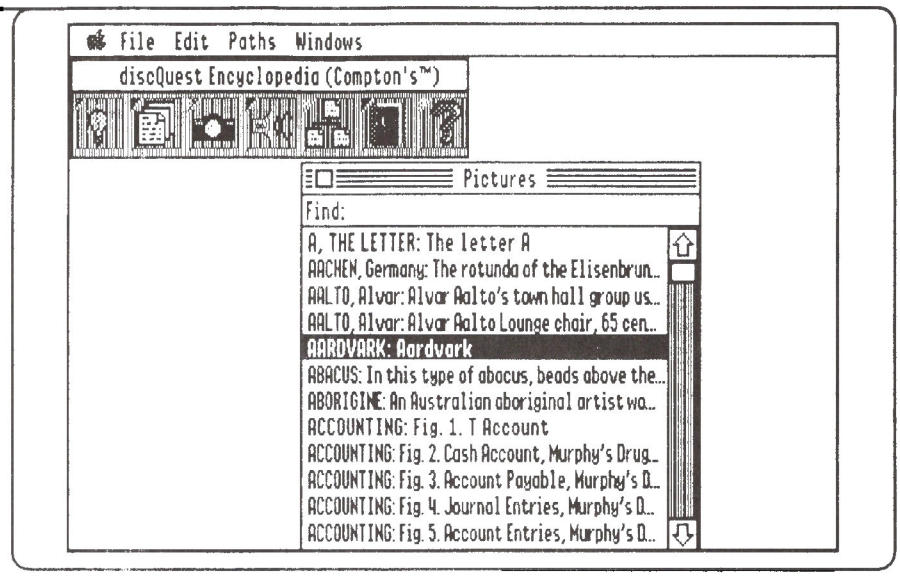
Compton's Encyclopedia

So, now that we have this nifty interface to our encyclopedia, what about the encyclopedia itself?

First of all, I have to say that I've not really *used* an encyclopedia (electronic or otherwise) since I was in junior high school. Because of this, my first few attempts at looking up information in Compton's were a bit frustrating. However, this was due more to my inexperience with this type of product than to a shortcoming of the product. In other words, I had to learn how to look for what I wanted to find.

Now, given the interface that I just told you about, that may come as a surprise. But, you have to remember that no matter how intuitive the interface, the information in an encyclopedia is prepared and arranged by humans, and they might not give some topics the same priority that you would.

For example, I've always wondered why humans mash their faces together, so the first thing I tried to find was information on the word "KISS". All that got me however, was Henry Kissinger. So, I tried to find an even broader topic, "LOVE". I was, frankly, stunned to find that there was no entry for love! (But I did find out that Juliette Low was the founder of the Girl Scouts of America.) So, I tried an even *broader* topic, "SEX". Ah! That's the ticket! I was then able to peruse over 35 articles on sexuality and sexually transmitted diseases looking for "LOVE". I still don't know (empirically speaking) why humans mash their faces together, but I do know what can happen if they do it too often.



Actually, this problem of not knowing exactly *what* to look for is the only real problem that I can point to in the Compton's Encyclopedia. However, this "problem" also leads to one of the real delights of owning this product: Spending literally hours and hours just looking, reading, listening and, yes, learning stuff that you didn't know before.

And, just in case I forgot to mention it elsewhere, the selection of sounds, pictures, figures, and tables that come with this CD-ROM are also excellent.

Summary & Conclusions

So, the bottom line here is that the DiscQuest Encyclopedia is a very good product. The interface (the DQE software) to the encyclopedia has a few minor blemishes, but none are serious enough to prevent me from recommending it. And, if history is any indication, Sequential Systems will have a fix out for these problems soon, maybe even by the time you read this! In addition to bug fixes, Sequential Systems has told me that they also plan to add support for the CIA World Fact Book and the Consumer Information Database, both of which are on the Compton's New Century Encyclopedia CD-ROM, but aren't supported by this first version of the DQE Software.

As if that weren't good enough, the encyclopedia itself is really excellent. The pictures are of superior quality (compared to the other DiscQuest titles), the sounds are good (if you remember to use your headphones or speakers), and the articles are well-written, easy to read, and very informative. It's also fairly well up to date. Even though I wasn't able to find information on the current theory that love is just an intense chemical reaction that loses its potency over time, I was able to find an article mentioning the Woody Allen-Mia Farrow child custody suit.

So, if you're one of the people that's called wanting to know why there wasn't an encyclopedia on CD-ROM for the IIGS, the DiscQuest Encyclopedia is what you've been waiting for. ***GS+***

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 IIGS makes colors
- Reviews: CMS 45MB Removable Hard Drive, S&S-RAMCard, DataLink Express modem, Visionary GS digitizer, GraphicWriter III, ZapLink, McGee, Math Blaster Plus IIGS, The New Talking Stickybear Alphabet, ZipGS

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 IIGS, Your IIGS Guide, Dragon Wars, 2088: The Cryllan Mission - Second Scenario, Space Ace, Sinbad & the Throne of the Falcon

Sep-Oct 1991 (V3.N1)
- Protecting Your Investment - A Guide to Surge Protection
- A Conversation with Roger Wagner - Part 2
- Working with the Toolbox - Part 4: QuickDraw II
- FGS - A 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/Integer BASIC, ORCA Talking Tools, Storybook Weaver: World of Adventure HyperBole, HoverBlade, Shareware: DeskTop Painter, SoundSmith, IIGS Classic: Bard's Tale IIGS

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

Any issues that are not listed are sold out.

Nov-Dec 1992 (V4.N2)
- Understanding Accelerators
- The Basic IIGS
- 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, IIGS System Transport Case, Out of This World, TrueType Font Collection, Universe Master
- Review updates: 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, Ant Wars, FloorTiles,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, DreamGraphix, The Manager, The Passport House Letter, The Lost Tribe, DuelTris

May-Jun 1993 (V4.N5)
- The Scavenger - Using your IIGS 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 Metacus, 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)
- IIGS Maintenance–Part 1: The Mouse and Keyboard
- SCSI ("Simple Connections," Says Igor.)
- Balloon v1.0: A finder extension that lets you extract files from ShrinkIt Archives
- CD-ROaM: An application that lets you scavenge files off of CD- ROMs
- KaBlooie! A version of the classic game Minesweeper for your IIGS
- Reviews: 3D Logo, Focus Drive Hard Card, Prism, Tulin Floptical Disk Drive

Jan-Feb 1994 (V5.N3)
- IPC (Igor's Playful Code) - A guide to using IPC on the IIGS
- 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 IIGS - 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. Splat!, ORCA/Modula-2

May-June 1994 (V5.N5)
- Programming the IIGS - Part 2: Programming the *IIGS*
- 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: Baldup v2.0, Spectrum

July-August 1994 (V5.N6)
- Programming the IIGS - Part 3: GS/OS and the Toolbox
- So You Bought a Hard Drive Mechanism. Now What?
- Working With the Toolbox - Part 12: Standard File
- Clip On - View the System Clipboard from any desktop program
- Sun Dial - A great new clock NDA
- What To Do - NDA to do list manager
- Reviews - Six Pack, The Tinies

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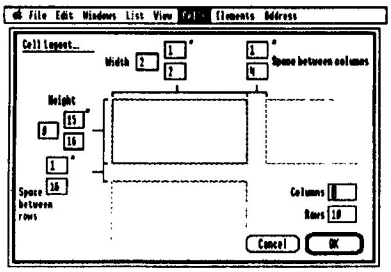

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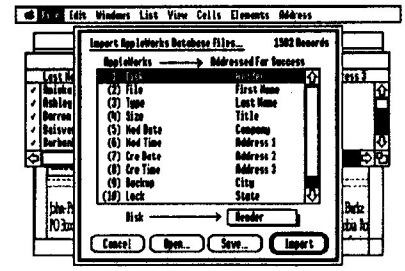

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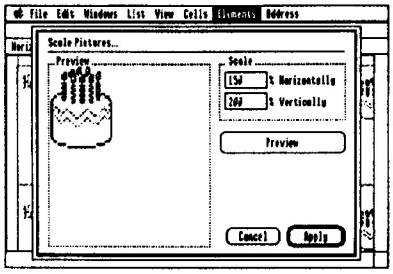

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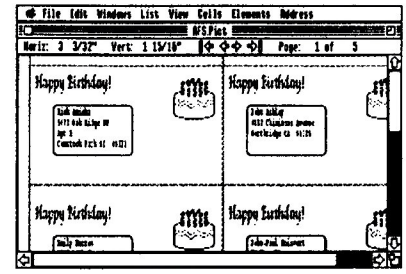

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To order Addressed For Success v1.1, send a check or money order for $35 in U.S. funds to: EGO Systems, P. O. Box 15366, Chattanooga, TN 37415-0366. If you prefer to order by credit card, you can use your Visa or MasterCard by calling us *toll-free* at 1-800-662-3634. Outside of North America, please call 1-615-332-2087. Or, FAX us at 1-615-332-2634. System Requirements: An Apple IIGS with System 6.0 or later, 2MB of RAM and at least one 3.5-inch disk drive. A hard drive and 4MB of RAM are *strongly* recommended! Addressed For Success was written by Michael Lutynski. Addressed For Success is a trademark of EGO Systems. AppleWorks is a trademark of either Claris or Quality Computers. It's hard to tell these days.

Quick Click Calc

By Mike Westerfield

Price: $60 (plus $5 shipping)

The Byte Works, Inc.
800 Wagon Mound Dr NW
Albuquerque, NM 87120
(505) 898-8183

Not copy protected
Requires System 6.0.1 or later, one 3.5-inch drive and at least 1.125MB of RAM. More RAM and a hard disk are recommended. Installation on a hard disk requires approximately 420K of free space.

Reviewed by Gerald W. Lester
Internet: gwl@cpu.com

Overview

With the demise of AppleWorks GS v2.0, the announcement of a new spreadsheet program for the IIGS, Quick Click Calc, came as a very pleasant reminder that not everyone has abandoned the IIGS. While it's no Excel or Lotus 1-2-3, with its feature list and low price, Quick Click Calc seemed very impressive, at least on paper. The following is a list of some of Quick Click Calc's more outstanding features:

• Publish and Subscribe allows data and formulas to be shared between spreadsheets.

• 3D graphs and bar charts allow for the graphical display of data.

• Support for "letter grades" allows you to use the letters "A," "B," "C," "D," and "F" in your spreadsheets, instead of the numerical values zero through four.

• Spreadsheet files may be password protected.

• Spreadsheets may have their sizes specified so that only the rows and columns that are used actually exist.

• Cells in a spreadsheet can not only have different formats, but also can be displayed in different fonts.

• The ability to set not only the column width, but the row height.

Publish and Subscribe

"Publish and Subscribe," a concept introduced on the Macintosh, allows data to be automatically shared between different spreadsheets, and even different programs. The spreadsheet that the data is coming from is called the *publisher*, and the spreadsheet using the data is called the *subscriber*. The published data is itself called an *edition*.

For example, the first row of a spreadsheet might be published with the edition name of "Titles", and the second and third rows published under the name "Costs". The cells that you publish are highlighted in yellow by Quick Click Calc so that you can easily identity them later. If you later change any of the published data, the edition file is also changed, so that subscribers can access the new values.

After an edition is published, another spreadsheet can then subscribe to it. The subscription can be for the formulas and values in the edition, or for just the values. The data from the edition then appears in the subscriber spreadsheet at the specified location. To make them easy to find, Quick Click Calc highlights subscriber cells in green. (However, if you want, you can turn off this highlighting.) After a spreadsheet subscribes to an edition, the spreadsheet will check that edition each time it is opened to see if it has changed. If it *has* changed, the subscriber reloads the edition file to get the new values, and then updates its own values accordingly. This makes it very easy to share data between spreadsheets, without having to re-type or import it.

This capability is similar to using an embedded object in an Excel spreadsheet, but it does not provide for true 3D spreadsheets like you get when you use multiple sheets in an Excel Workbook. You can't address the values by using "(x, y, z)" style coordinates—you must insert the values (via a subscription) directly into your spreadsheet and address them as standard rows and columns.

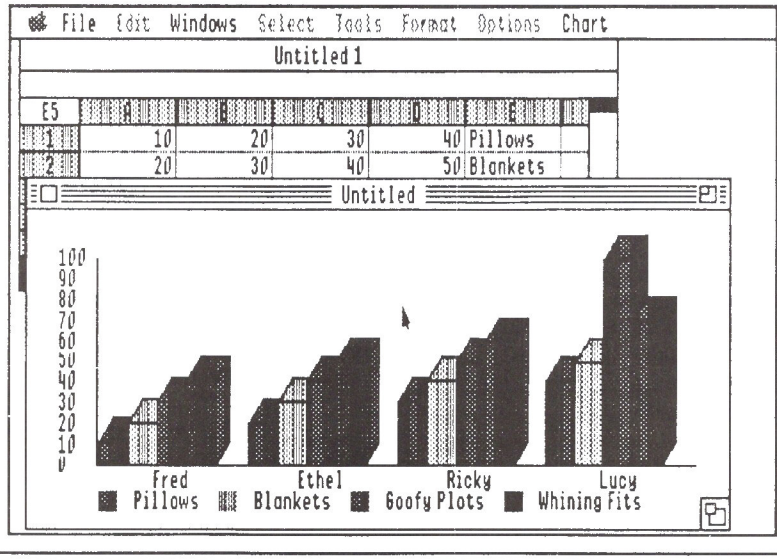
3D Graphs and Bar Charts

Quick Click Calc allows you to create line graphs, bar charts, and pie charts of the data on a spreadsheet. It not only allows for three-dimensional looking graphs and bar charts, but can graph multiple rows in real three-dimensional (X, Y, and Z) graphs and bar charts. Best of all, creating these graphs is very straight forward. Simply select the cells to be graphed and choose the New Chart item from the Chart menu. Then, select the type and subtype of chart and off you go. Charts are saved with the spreadsheet, and can be reopened later to make changes. Charts can also be printed, or saved to disk as standard picture files (file type $C1).

Pie charts can be drawn from a normal top view, a tilted top view, or a shadowed and tilted view. The shadowed and tilted view gives a three-dimensional looking pie chart. All the values in a pie chart must be in either the same row or column. The labels for the values in the chart are taken from another row or column which you specify.

Bar charts allow for data to be displayed in either "1D" or "3D" modes. (Sorry, but there aren't any "2D" bar charts!) In the 1D mode, up to four rows can be plotted for each column. Each row will be displayed in a different color. The bars for the rows of a column can either be displayed side-by-side or stacked on top of each other. Each type, stacked or side-by-side, can be displayed either flat or shadowed. The shadowed displays give the appearance of a solid bar.

3D bar charts allow for any desired number of rows or columns to be graphed. Each cell you graph becomes a separate bar on the chart. The row number of the cell is its Y coordinate and the column number of the cell is its X coordinate. The actual value of the cell becomes its Z coordinate (height) on the graph.



Quick Click Calc also does line charts (X-Y graphs). Quick Click Calc can display these as either two- or three- dimensional graphs. Two-dimensional line charts, which are referred to as one- or two-dimensional charts, can graph from one to four sets of data. In a one-dimensional line chart the column number is the X coordinate, and the value of the cell is the Y coordinate. A two-dimensional line chart allows for only three data sets to be plotted. A cell's contents are used for its Y coordinate on the graph and the data from the corresponding cells in another (user specified) row is used for the X coordinate. Both types of charts allow for the data points to be plotted as is, connected via a line, or fitted to a curve. Quick Click Calc supports first, second, and third order fits of the data to a curve.

Three-dimensional line charts plot data using a wire frame with hidden line elimination. The column numbers are the X coordinate, the row numbers are the Y coordinate, and the values of cells are the Z coordinate.

Charts print out using the standard IIGS printing tools, so the quality is as good, or bad, as your printer allows. While the charting features are very nice, they still leave room for improvement. I could not find a way to define the colors to be used. Nor could I find a method to put a legend on a graph or have my own labels on the axis when the 3D option was chosen.

Other Neat Stuff

Quick Click Calc also allows for the use of letter grades, with optional +/- modifiers. Grades are converted into the standard values on the 4.0 grade scale. For example an "A" is a 4.0 and a "C+" is treated as 2 and a third. (All "+" grades are "and a third," all "-" grades are one third less than the "whole" grade.) Cells with grades in them can be used in numeric calculations just like normal cells. This facility should make using spreadsheets for a grade book a very simple task. In fact, a grade book would have been a great, and useful example. Unfortunately, there isn't one provided with Quick Click Calc.

Quick Click Calc also allows for spreadsheets to be password protected. In the documentation these spreadsheets are sometimes referred to as "encrypted" spreadsheets. When an encrypted spreadsheet is opened, the user must enter the password that the spreadsheet was saved with before the spreadsheet will open. If an encrypted spreadsheet publishes any editions, those editions can be used without knowing the password. This is ideal for protecting the data on a system where several people have access to it. Of course, this does not prevent someone from deleting the entire spreadsheet!

With Quick Click Calc you can not only resize the window displaying the spreadsheet, but you can actually specify the number of rows and columns in a spreadsheet. This resizes the scroll bars for the spreadsheet so that they are much more meaningful.

Two other very useful features of Quick Click Calc are its ability to put a note on a cell, and the Revert menu item. If a cell has a note attached to it an indicator appears in the corner of the cell, but the note is normally not visible. (You can also turn the note indicators on and off.) The Revert menu item allows the user to safely do "what if" calculations and then quickly restore the spreadsheet to its last saved state.

The Good

In order to try and push Quick Click Calc's envelope, I tested it with a rather large spreadsheet that I have used with AppleWorks GS. This spreadsheet contained 440 columns and 60 rows of data. I broke this up into four Quick Click Calc spreadsheets with publish and subscribe links between them: One small sheet containing only 60 rows by 5 columns, a medium sized sheet containing 2 rows by 125 columns, a fairly large sheet containing 60 rows by 125 columns and a large sheet the same size as the original. While it only took a couple of minutes to set up the spreadsheets with the links, it took a bit longer to enter all of the test data! I would have imported the data and formulas from my old AppleWorks GS spreadsheet, but unfortunately Quick Click Calc can't import from an AppleWorks GS spreadsheet—only AppleWorks Classic 3.0 and ASCII files can be imported.

Quick Click Calc loads and saves, even big spreadsheets, quite fast. AppleWorks GS took over five minutes to load or save the test case, while Quick Click Calc took less than a minute for even the largest sheet in the test case. When entering the data I found Quick Click Calc's split screen feature very useful. This feature allows each spreadsheet window to be split into two "panes" showing different parts of the same spreadsheet. Each pane can be independently scrolled. This allowed me to see the titles for the rows of data being entered.

The Bad

Unfortunately, as I used Quick Click Calc version 1.0, I found several very annoying, but thankfully not serious, bugs. By that I mean that none of the bugs causes data to be lost or corrupted and all have work-arounds.

The most annoying of the bugs is that the screen fails to update under several related circumstances. For instance, whenever I tried to use the Cut and Paste function, the screen failed to show that values had been cut or pasted! Also there where times when the screen failed to update after a calculation was done. Lastly, when I instructed Quick Click Calc to update the values that were being imported from an edition, the cells that were linked to the edition did not appear to change.

In all of these instances, appearances were deceptive. The values in the cells had actually changed, Quick Click Calc just neglected to display the changes. When the cells were scrolled off, then back on the screen, the updated values were displayed. Which led me to find another very annoying feature of Quick Click Calc—on the larger spreadsheets scrolling tends to be rather slow, even if the automatic calculations are turned off.

Once I started trying to make my spreadsheets nice and jazzy looking by using different fonts and formats for the cells, I found that I could not change the format of a cell that did not have any data in it. What this effectively means is that I had to enter all of my data unformatted, then go back and format it! Careful reading of the Quick Click Calc manual implied that this is how Quick Click Calc is supposed to work.

When I changed the number of rows and columns on the smaller spreadsheets, I found that Quick Click Calc had set an apparently arbitrary lower limit of 16 for the number of rows (or the number of columns) in a spreadsheet. While this could just be ignored, it was annoying having to have those few extra cells on the spreadsheet. Later, when I limited the number of cells on the larger spreadsheets, I found instead of the last row/column only scrolling to the bottom/right of the window, it will scroll to the top/left of the window. This leaves one cell in the upper left corner of the spreadsheet and the rest of it a fairly ugly gray.

Now that I had my large spreadsheets, I quickly noticed that Quick Click Calc is missing some "convenience key" mappings. For larger AppleWorks GS spreadsheets, I've always found it nice to be able to hit a "Command-arrow" keystroke to scroll by a page, however, Quick Click Calc does not allow you to do this.

At this point I started to enter my data and discovered that Quick Click Calc does not allow you to specify the actions that the tab, return, and enter keys perform. In my case, I would have liked to be able to define one of them as being able to go to the first cell of the next row. Instead I was stuck with "tab" advancing a cell to the right, "enter" staying in the same cell, and "return" moving down one row.

When reading the documentation, I came across another problem. It states that after Quick Click Calc is run for the first time, a user may double click on a spreadsheet data file in the Finder and Quick Click Calc will be launched and open the file. However, this did not work. In fact I could not even associate the data file with an application Another problem with the documentation is that it appears to have a split personality! At times it thinks it is the documentation for 3D Logo, Byte Works' last major new software product.

And the Ugly

The first ugly item is that I came across was that Quick Click Calc has no install script. While Quick Click Calc is very easy to install on a hard drive (all I had to do was copy the disk to a folder on the drive), I think that it is always more professional to have an Installer script.

When I installed Quick Click Calc on my hard drive, and I tried to work through the examples at the beginning of the manual, another of Quick Click Calc's warts quickly became apparent! The "Net Worth" example appears not to work. After putting in a technical support request to the Byte Works, I was told this is because the names of editions are stored as absolute paths in subscriber spreadsheets. Quick Click Calc does give a rather cryptic error message, but it would be far nicer if the paths to editions were stored as relative paths, or at least if the user was prompted to specify where the files now reside.

As I mentioned before, while the bar and line graphs are very nice, they still leave room for improvement. I could not find a way to define the colors for rows in a bar or line graph. Nor could I find a method to put a legend on a graph or have my own labels on the axis when the 3D option is chosen.

Lastly, I found that Quick Click Calc sometimes forgot to remove all of the highlights on cells after performing a row or column insert when I had selected the entire row/column that I wanted to insert in front of.

Missing Features

Quick Click Calc is also missing some features that I would expect in a modern spreadsheet. The most glaring one in my opinion, which I mentioned before, was that you can't import an AppleWorks GS spreadsheet! To be fair, the Byte Works states that this is because the format of an AppleWorks GS spreadsheet has not been made public. You can however import an ASCII file or an AppleWorks "Classic" 3.0 spreadsheet. Quick Click Calc just can't import ASCII spreadsheets saved by AppleWorks GS that contain a range in a formula because AppleWorks GS generates ranges of the form "A5..A10", but Quick Click Calc wants ranges of the form "A5:A10". Of course, I could use a text editor to find and replace all of the ".." with ":", but Quick Click Calc *should* have done this for me.

Another feature notable by its absence is a scripting or macro language. Nor does Quick Click Calc provide a documented Application Program Interface for the more intrepid souls. Also missing from a programmer's point of view is a reference on how to use publish and subscribe from other programs. [This information was released at the recent KansasFest. If you are interested in writing programs that support publish and subscribe, see "What To Do v1.1" and "Miscellaneous Library" elsewhere in this issue. - Ed]

Also missing is the ability to reference a published edition without inserting the published data into the spreadsheet. This would be useful when you want to use data, such as list prices and actual cost of items to calculate the profit on a sale, but don't need (or want) the user to see the actual values.

While Quick Click Calc does have the ability to do searches on a spreadsheet for a cell's contents, the search does not allow for case sensitive searches or patterns.

Lastly, Quick Click Calc comes with a fairly complete reference manual covering all menu choices and functions that can be used in cell calculations but is completely lacking a "users guide." The Quick Click Calc manual does devote a single chapter to the examples on the disk, but this is hardly a start on a "users guide"

Support

I reported all of the problems that I found to Byte Works (without telling them I was doing this review!) via Internet mail and was acknowledged the next day. The Byte Works is working to fix the bugs in version 1.0 (see below), but at this point, there is no information as to when a new version will be available.

On the subject of support, you are able to get much more complete support if you have a GEnie account. This is because you will be able to exchange binary files with Mike Westerfield. He is unable to accept any of the "standard" ASCII encoded binary files (such as uuencode) since he does not have any of the conversion tools.

Summary

While there were many annoying little bugs and "features," I can not say that I'm disappointed with Quick Click Calc and can honestly recommend it to anyone with large spreadsheets, those with no spreadsheet program, or to those who need some feature that it offers that AppleWorks GS does not, such as the ability to password protect a spreadsheet. I can do this with a clear conscience since in the past Byte Works has had reasonable upgrade prices.

If you don't fall into one of those categories, you might want to wait until Quick Click Calc version 1.1 comes out and at least fixes the screen update problem (which I consider the only major problem with version 1.0). Although at only $65.00, you may want to add it to your bag of tricks anyway. No telling when you might really need one of its features. *GS+*

A Bug Fix Is In the Works

Just before we went to press, I received a pre-release version of Quick Click Calc v1.1. The package consisted of a hand-labeled disk and a thank you note for reporting the bugs I found. The disk appeared to be a complete release, including a new directory containing documentation on the "Publish and Subscribe" file format. The release notes indicate that several of the bugs mentioned in this review are fixed. After doing some quick testing, it appears that the following bugs were fixed:

The screen now updates properly after Cut/Paste operations.
The screen now updates properly after changes to an edition.
Command-Arrow keys can now be used to scroll through a spreadsheet.
Quick Click Calc now remembers to remove its highlighting after a column insert.

Apple II Software

APDA Moves West

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ORCA/Modula-2

Niklaus Wirth designed Pascal for learning to program. When he wanted a systems programming language (like C) with great structure and safety (like Pascal) he created this highly acclaimed language—now available for the Apple IIGS. It's also the only GS language that supports multiprocessing directly.

Apple IIGS, 1.75M, hard drive.

Quick Click Calc

If you thought the spreadsheet in AppleWorks GS was a good start, you'll love our finish! Quick Click Calc is a true GS spreadsheet, featuring Publish & Subscribe, encryption, true split screen, unparalleled formatting, and a great business graphics package—all for a remarkably low price!

Apple IIGS, 1.125M

Apple IIGS Productivity

GS-21	Quick Click Calc	NEW	$60.00

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GS-12	Talking Tools	$35.00
GS-13	ORCA/SubLib Source	$25.00
GS-14	Merlin to ORCA	$25.00
GS-15	Utility Pack #1	$25.00
GS-16	Prog. Ref. for 6.0 & 6.0.1	$50.00

Apple IIGS Self-Study Courses

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GS-18	Toolbox Prog. in Pascal	$75.00
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GS-20	Toolbox Prog. in C	$75.00

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II-04	MON+ Debugger	$25.00
II-05	ORCA/M O/S Source	$25.00
II-06	Floating Point Libraries	$25.00

Other Apple II Products

II-01	Crypto (File Encryption)	$10.00
II-02	Byte Paint	$10.00

Upgrades (with proof of purchase)

ORCA/M 2.0.4 from...	NEW	
any Apple IIGS Assembler		$62.50
ORCA/M 1.x		$50.00
ORCA/M 2.0 or 2.0.1		$10.00
ORCA/M 2.0.2 or 2.0.3		$7.00
ORCA/Pascal 2.1 from...	NEW	
any Apple IIGS Pascal		$75.00
ORCA/Pascal 1.x		$60.00
ORCA/Pascal 2.x		$7.00
ORCA/C 2.0.3 from...	NEW	
any Apple IIGS C		$75.00
ORCA/C 1.x		$60.00
ORCA/C 2.x		$7.00
ORCA/Debugger 1.1.1		$10.00
ORCA/Integer BASIC 1.0.1		free† or $5
ORCA/SubLib Source		$10.00
3D Logo 1.0.2		free† or $5
HyperLogo 1.0.1		free† or $5
Prog. Ref. for System 6.0.1		$10.00

† Updates marked "free or $5" are free with any order, and cost $5 to cover postage and handling if ordered separately.

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Apple IIGS, 1.75M, hard drive recommended

Apple II APDA Products

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Our toolbox programming course is available for C or Pascal. It's self-contained—all you need is the course and the language. Step-by-step, you'll learn how to write your own professional quality programs for the Apple IIGS. You'll also get a great library of four disks filled with examples of toolbox programs.

Apple IIGS, 1.75M, Hard Drive

HyperLogo GS

Here's the amazing graphics and artificial intelligence language built right into your favorite multimedia authoring tool! HyperLogo controls HyperStudio stacks, just like SimpleScript, but offers more commands, the power of artificial intelligence, and true 3D graphics!

Apple IIGS, 1.75M recommended, HyperStudio 3.0 or better.

3D Logo

Create true 3D drawings that literally appear in front of the monitor. Make a movie of a molecule rotating in space. Build simple desktop programs without learning toolbox programming. Do it all with a language so powerful it's used in universities, and so simple it's used in elementary schools!

Apple IIGS, 1.125M

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APDA-19	MPW IIGS Tools	$50.00
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What To Do v1.1

By Josef W. Wankerl

Frankly, I'm amazed at the popularity of What To Do v1.0. I thought it'd be "just another" new desk accessory for people to put in their system and forget about. However, I've gotten lots of requests for updates to the program. So, for version 1.1, I *completely ignored* all the requests. Really, I'm serious. Instead, I put in some stuff that I wanted, namely publish and subscribe capabilities. (Actually the reason why I didn't put in some of the other suggested features is simply a matter of time. I didn't have time to put in publish and subscribe as well as other features, and since MiscLib was going in this issue with the new Edition section, I figured that publish and subscribe would get the A-OK.)

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 Categories item from the top of the pop-up menu. (Version 1.0 displayed the Categories item in italics, but the publish and subscribe features in v1.1 would make an italic Categories item confusing. You'll see why a bit later.)

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.

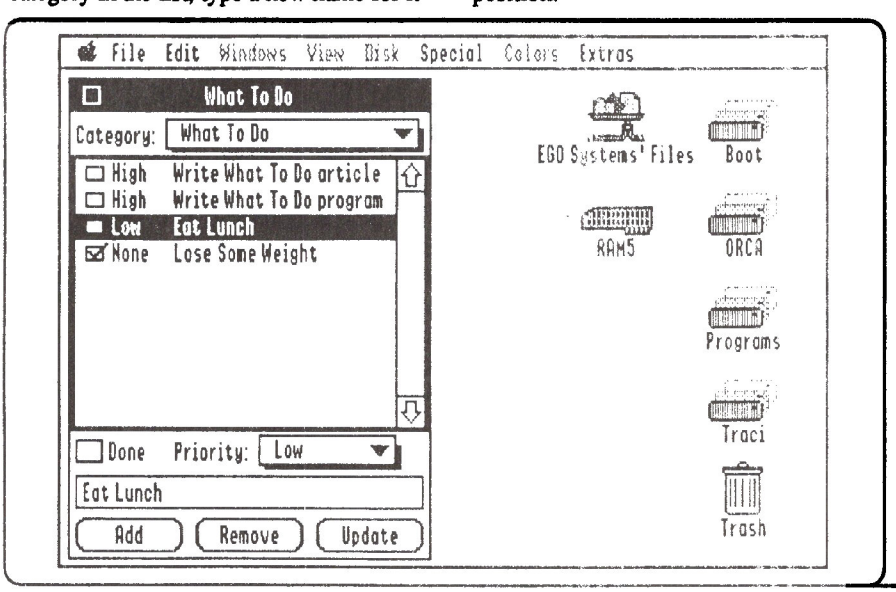
Changing Categories

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 foreward 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.

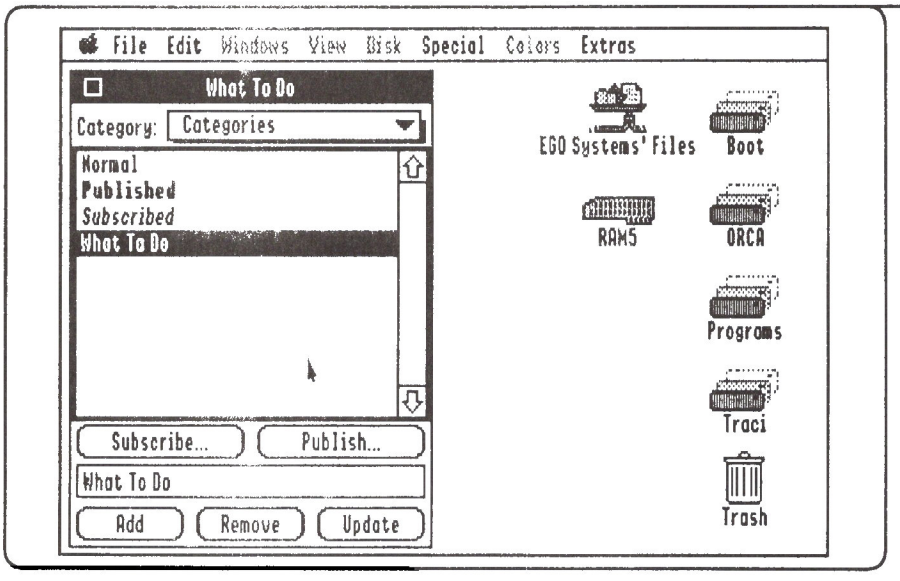
You'll notice that the items in to-do lists are sorted based on their done status, their priority, and finally, the task name. Completed tasks will always come after uncompleted ones. Higher priority tasks will always come before lower priority tasks. This way, the most important things you need to do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



Publish & Subscribe

Now we come to the reason why What To Do was updated: Publish and subscribe. You can publish and subscribe to an entire category. What this means is that you can share the information contained in a category with another application, or even another person. (Right now, What To Do is the only program that can publish and subscribe to to-do list category information, but this could change in the future if more applications start supporting publish and subscribe.) There are three things to keep straight when talking about publish and subscribe: the publisher, the subscriber, and the edition file. A publisher is the program who has the original copy of the data to be shared. A subscriber is the program who wants to look at some data that has been published. An edition file is a file which is the common element between the publisher and the subscriber. When the data the publisher knows about changes, the changes are saved into the edition file. When the subscriber needs to find the data, it looks into the edition file to get it.

The best way to learn about publish and subscribe is to actually walk through an example. So, start off by creating a new category and call it "Example". Next, add a few to-do items to the category. Go back to the Categories display, click on the "Example" category in the list, and then click on the "Publish..." button. A Standard File dialog will appear asking you to save an edition file. Once you've saved the edition file, you'll notice that the category you published is displayed with bold letters. This identifies the category as having been published. The next thing you'll want to do is to subscribe. Click on the "Subscribe..." button and a Standard File dialog will appear asking you to find an edition file to subscribe to. After you've chosen an edition file, the information in that edition file will be added to your category display, and the category will be displayed in italics to show that the category is a subscription. Note that categories you've subscribed to are read-only! You cannot change the information in a subscribed category, you can only look at it. If you decide you don't want to subscribe to a category anymore, simply select the subscribed category in the category list and then click on the Remove button. If you decide you no longer want to publish a category, select the published category in the category list and then click on the Unpublish button.



All the edition files that are published are updated when the What To Do window is closed. All the edition files that are subscribed to are looked at when the What To Do window is opened. Since publish and subscribe is new to the IIGS, there are some conventions which have yet to be established. Probably the most important issue which needs to be addressed is when the subscriber looks for an edition file and the edition file is not found. I used Mike Westerfield's Quick Click Calc spreadsheet program (the first IIGS program to have publish and subscribe) as a basis for how What To Do should work in this situation. I have to admit, there are a few things that I think Quick Click Calc does strangely with its implementation of publish and subscribe, however, I feel that consistency is what makes using Apple's desktop interface worthwhile. When an edition file is not found, no prompting is given to the user and the data from the last known edition is used. As publish and subscribe technology evolves on the IIGS, there will almost certainly be more rigid guidelines for how to deal with lost edition files.

What Good is it?

So now you may be wondering exactly what good it is to have publish and subscribe capabilities in What To Do. At first I wondered myself! But, here in the new *GS+* offices, we can now share to-do categories between our machines. The edition files go on our file server, and I can now see all the published items that Diz has left to do. He, in turn, can then see all the published items that I have left to do. In a single-user environment, the publish and subscribe features in What To Do probably aren't very useful, though. That's not to say that publish and subscribe is useless in a single-user environment! Programs which work with multiple documents could share information between the documents.

Cut, Copy, Paste, & Clear

Something that was clearly lacking in v1.0 of What To Do was the ability to cut, copy, paste, and clear entries. Since the underlying mechanism for publish and subscribe closely resembles using the system clipboard, putting in support for the standard editing items was easy. You can now cut, copy, paste, and clear categories and individual to-do items.

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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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.V6.N1.SEA** self-extracting archive that is on your *GS+* Disk.)

Publish & Subscribe

One of the sessions at this year's ICONference featured Mike Westerfield giving a presentation on how to do publish and subscribe on the IIGS. I found the session intriguing, so when I got back from the show, I started work on a set of MiscLib routines to help me do publish and subscribe. Of course, they can help you, too! The toughest part of publish and subscribe relates to managing the edition file. The Edition section of MiscLib routines removes all the headache. Before you dive in and read the rest of this article, it'd be a good idea for you to unshrink the MiscLib documentation on your *GS+* Disk and read up on the file format for an edition file. (Unless you know what an atom is and what atoms are required, you're going to be confused for the rest of this article.)

While it doesn't look like much, the Edition calls really simplify working with edition files! If you had to program the code to add a new atom to an edition file or find an atom in a file every time you wanted to support publish and subscribe, you'd probably go crazy.

Designer Notes

If you plan to add publish and subscribe support to one of your existing programs, or if you want to build publish and subscribe into a completely new program, there are a few things you should consider. First off, you should consider how you are going to track whether a certain piece of data is published or subscribed to. You have to keep a pathname to an edition around for each piece of publish or subscribed data, and you have to know whether the edition file is subscribed to or if your program is publishing to the edition file. This will, of course, mean that you have to add this information to your document files, and in doing so, you may make the files incompatible with previous versions of your program.

Another point to consider is when your program accesses edition files. Of course, the first time a document is opened, subscribed editions must be read. And likewise, when a document is closed, published editions must be updated. However, in between opening and closing documents, there's no clear-cut method telling you when to access edition files. One way around this is to provide an option to immediately re-read subscribed editions or re-write published editions. Another way is to know exactly when data in a published edition changes and then update the edition file after the data has changed. This may be slow if the published data changes often or if the data is large. You could also install a periodic task which checks subscribed edition files to see if they have changed and then re-read their contents.

Lastly, you have to consider what to do when a subscribed edition file is not found. Do you ignore it and just re-use the data from the last known edition file that was last saved with your document, and if so, how should you tell the user? Do you prompt the user to find the lost edition file? Do you assume that the edition was "unpublished" and therefore automatically unsubscribe that edition? So far there are no concrete guidelines for this area.

Read-Only?

By its very definition, publish and subscribe is a one way transaction. This means that the publisher tells other programs about its data through edition files and subscribers look at the edition files to get the data. Subscribers cannot change that data and send it back to the publisher. So, since the data can only be changed by the publisher, it only makes sense that the subscriber would not allow the user to change the data on its end, as doing so would be a bit confusing. (Users would say to themselves, "... but I changed that value and saved it! Why did it revert back?") However, there is some merit to letting users change the data. For example, suppose the published data was the number of hours left to complete a project and a computational

Figure 1
The New Miscellaneous Library Calls

New Calls	Description
EditionNew	Creates and opens a new edition file
EditionOpen	Opens an existing edition file
EditionClose	Closes an open edition file
EditionGetPBLS	Returns the PBLS atom in an edition file
EditionGetPROG	Returns the PROG atom in an edition file
EditionCountScrap	Returns the number of scrap atoms in an edition file
EditionGetIndScrap	Returns the type of a scrap atom in an edition file given an index
EditionGetScrap	Returns a scrap atom in an edition file given a scrap type
EditionPutScrap	Adds a scrap atom to a newly created edition file

Figure 2
Uncallable Support Routines

Support Routine	Description
`LoadAtom`	Loads an atom from an edition file into a new handle
`AddAtomSize`	Adds the size of an atom and its header to the EDTN atom length field
`TestHexadecimal`	Tests whether or not a character is a hexadecimal number

program were subscribed to it to calculate some kind of cost. Being able to change the hours value to see trial costs might be good. Your application has to decide for itself how to handle the subscribed data.

Once you've decided how you're going to handle all the variables, you'll probably want to dive in and start coding. (Actually, if you're like me, you want to code first and ask questions later . . . .) So, to help you manage edition files, here are brief descriptions of what each of the Edition section calls do:

New And Open

The two workhorses of the Edition section are the `EditionNew` and `EditionOpen` calls. The `EditionNew` call creates a new edition file, writes the EDTN atom header, writes the VERS atom, and then writes the PBLS and PROG atoms if they are supplied. The new edition file is then ready to receive scrap atoms. The `EditionOpen` call opens an existing edition file and then searches through the all the atoms building a table of offsets to each of the scrap atoms it finds. The offsets to the PBLS and PROG atoms are also remembered.

Close

The `EditionClose` call closes an open edition file and disposes of the information handle associated with the edition file. If the file was opened by the `EditionOpen` call then the scrap atom offsets table is also disposed of. If the file was opened by the `EditionNew` call then the length of the EDTN atom is written out in the EDTN atom header before the file is closed. The `EditionClose` call works even if an error occurred during the `EditionNew` or `EditionOpen` calls.

Get Calls

The `EditionGetPBLS`, `EditionGetPROG`, and `EditionGetScrap` calls simply retrieve the offset to the atom from the info handle and then make a call to the internal `LoadAtom` routine. The `LoadAtom` routine then loads the atom into a new handle.

PutScrap

The `EditionPutScrap` call simply writes out a scrap header followed by the scrap data. The file mark will always be at the end of the file, so that is where the atom will be written to. The size of the atom data and the size of the atom header are then accumulated and saved so the EDTN atom length can be properly set with the `EditionClose` call.

CountScrap and GetIndScrap

The `EditionCountScrap` call simply returns the number of entries in the scrap atom offset table. The `EditionGetIndScrap` call returns the scrap type for a given index into the edition file.

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.V6.N1.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+*

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Table Scraps

By Josef W. Wankerl

The Table Scraps program in this issue was inspired by the Sun Dial program in last issue. This may not be very obvious, though. You see, when I was debugging Sun Dial, I needed a way to view the system clipboard when Sun Dial pasted the current time, so the Clip On program was born. While I was looking at Clip On, I figured that I could do a nice scrapbook program that would have a similar functionality to the system clipboard window. Of course it turned out to be a little more difficult to write than I had originally intended, but in the long run I think it came out a very decent and indispensable program.

Installation

To install Table Scraps, simply use the Installer program provided on your *GS+* Disk. Two files will be installed in your ***:System:Desk.Accs** folder: **TableScraps** and **Scrapbook**. The **TableScraps** file is the actual program which provides the scrapbook new desk accessory. The **Scrapbook** file is the data file which remembers what is on the pages of your scrapbook. The **Scrapbook** file on your *GS+* Disk, which is installed on your system by the Installer program, simply contains some sample pages. You can delete this file if you want to start with a fresh scrapbook, or you can use Table Scraps to clear out all the pages. (Note that if you ever decide to reinstall Table Scraps using the Installer, you will also be reinstalling the Scrapbook file! If you have any important scraps you want to save, you will have to save the old Scrapbook somewhere and then restore it over the Scrapbook file that the Installer will install. If you want to do things the "old fashioned" way, you can simply copy the TableScraps file from your *GS+* Disk to your ***:System:Desk.Accs** folder by hand.)

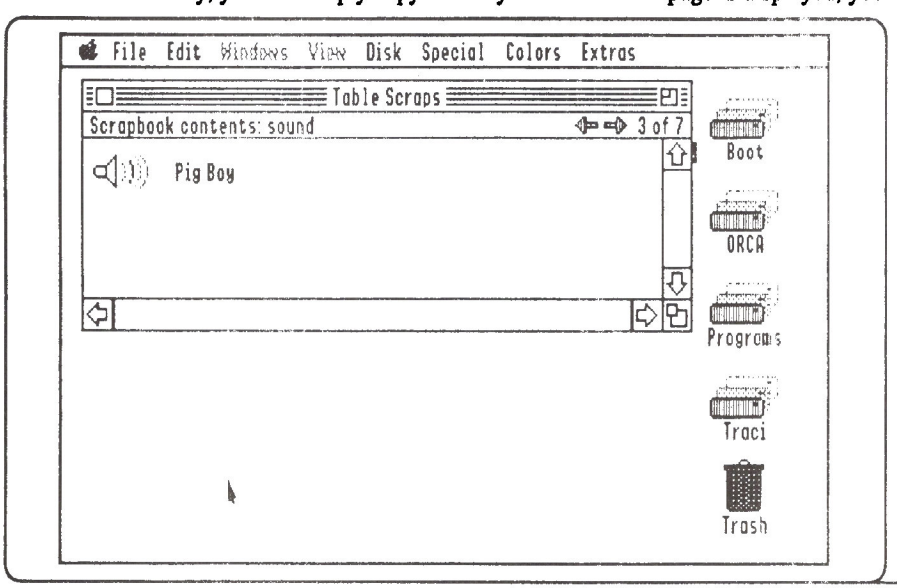
What Is a Scrapbook?

The ability to cut and paste is one of the more powerful functions your IIGS can perform. It makes the process of rearranging your documents almost trivial. As you may know, when you cut or copy information, it is placed on the system clipboard. Later, a paste operation takes the information from the system clipboard and places it into a document. A scrapbook program lets you paste the information from the system clipboard into a "scrapbook." The scrapbook can keep track of all kinds of different pieces of scrap. If you routinely need to paste something, you can first put it in a scrapbook. Then, whenever you need it, that item is readily available from the scrapbook.

Table Scrappa Dappa Doo

Table Scraps is a new desk accessory which appears as a menu item underneath the Apple menu item of any desktop program which happens to support desk accessories. When you choose the Table Scraps menu item, the Table Scraps window appears. As you will notice, the Table Scraps window looks remarkably similar to the system clipboard window, with the addition of a page count and some navigation arrows in the information bar.

To navigate through the pages of the scrapbook, you simply click on the arrows in the information bar, or you can press the left and right arrow keys on your keyboard. As each page is displayed, you can see the number of the page that is currently being displayed, as well as the contents of the page, by looking at the information bar area.



The way you manipulate scrapbook pages is by using the standard Cut, Copy, Paste, and Clear items. To add a new page to the scrapbook, simply copy something, open Table Scraps and then choose the Paste menu item (or press Command-V). A copy of the system clipboard is created and pasted into the scrapbook. The scrap will be put on the page immediately *before* the page you are currently looking at. (There is no way to paste in a new page as the very last page of the scrapbook because of the "insert before the current page" feature. However, if you absolutely need to have a particular scrapbook page as the last page in the scrapbook, you can paste the page in immediately before the last page. Then you can cut the last page out, which moves the page you wanted last to the last position. Since the last page was cut, it remains on the system clipboard, so you can paste it back in the scrapbook anywhere you like.) To remove a page from the scrapbook, simply go to the page you want removed and choose the Clear menu item (or press the delete key). The page will then be removed from the scrapbook. To copy the contents of a scrapbook page to the system clipboard, simply go to the page you want to copy and choose the Copy menu item (or press Command-C). A copy of the page will then be put on the system clipboard. To cut the contents of a scrapbook page, simply go to the page you want to cut and choose the Cut menu item (or press Command-X). A copy of the page will then be put on the system clipboard and the page will be removed from the scrapbook.

You now know everything there is on how to use Table Scraps. (Well, you know everything except for the fact that Command-? will bring up version information, but now you know that, too.) If all you want to do is use Table Scraps, then all you need to do is install the program and have at it. However, if you want to know a little more about what makes Table Scraps tick, read on!

Coding Notes

Programming Table Scraps started out to be a simple, quick program. It turned out to be a bit of a headache. What I originally thought about doing was patching a few scrap manager calls and

then sending out the system `systemSaysDoClipboard` request to let the system, or any installed system extensions, draw the contents of the scrapbook page. Well, patching the few scrap manager calls was the only thing of my original idea that went unmodified, so that's what I'll discuss first.

Dispatcher Patching

Table Scraps doesn't need to have patches on the Scrap Manager all the time. The only time patches are needed is when a scrapbook page is to be displayed. When a scrapbook page needs to be displayed, the Scrap Manager is patched so that, instead of returning the scrap on the system clipboard, it returns the scrap on the current scrapbook page. The `GetScrap`, `GetScrapHandle`, `GetScrapSize`, and `GetIndScrap` calls need to be patched since those are the key routines that will be made in order to display the scrap. Since the Scrap Manager only needs to be patched when a scrapbook page is displayed, patching the function pointer table is a bit wasteful, especially since you might never need the patches. (Do you use Table Scraps *every* time you use your IIGS? I certainly don't.) Since the patches are only needed once in a blue moon, I opted to simply patch the main tool dispatcher. Patching the dispatcher slows down *every* tool call made, but the patch is only applied during the drawing of the scrap, then the patch is removed. That's another advantage of patching the tool dispatcher: The patches can be removed *cleanly* from the system.

Let's talk a little about what the patches actually do. Usually patching the Toolbox means doing something *in addition* to the normal routine being patched. Table Scraps *completely replaces* the routines it patches. This means that I had to write routines that are comparable to the `GetScrap`, `GetScrapHandle`, `GetScrapSize`, and `GetIndScrap` calls. The actual routines themselves are fairly small—they all make a call to an internal routine, `IndexedScrap`, which returns information about a scrapbook page given an index—pretty much the same thing that `GetIndScrap` does. The reason for the separate routine is so that a `GetIndScrap` kind of call can be made without going through the tool dispatcher.

The Movie Star, and the Rest . . .

Once the tool patches worked, the first real problem I encountered was that the system doesn't actually accept its own `systemSaysDoClipboard` requests for text, picture, and sound scrap types. I originally thought that the system installed some kind of request procedure that would accept the request and display the scrap. Instead, what the Scrap Manager really does, is to send out the request and if nobody accepts it, it then special cases the text, picture, and sound scrap types. So I also had to build in the support for those three scrap types into Table Scraps. Having done that, I thought everything was fine . . . so I started in on writing Scrapie (which is elsewhere in this issue). During the course of that, I figured out that I couldn't use the `systemSaysDoClipboard` request to tell extensions to draw stuff in the Table Scraps window. The reason for that is because some extensions (Scrapie was one of them for a while until it evolved past the global-variable-for-everything state) will maintain global variables for scrap information, and if you ask an extension to draw things in two different windows (the Table Scraps window and the system clipboard window) things can mess up in a very bad way. So I had to make Table Scraps send out a custom request for extensions to respond to. That way extensions can have two sets of global variables if necessary: one for the system clipboard window, and one for Table Scraps. (To illustrate my point, Scrapie was creating a TextEdit control and then saving the control handle in a global variable. If the system clipboard and Table Scraps asked Scrapie to display a styled text scrap, only one control was created since there was only one global variable to keep track of the control. Very bad crashes would then occur when the control mysteriously disappeared when one window would close or change content. Oops! Adding the custom request in Table Scraps allowed me to have two sets of global variables to keep things straight. But eventually, I realized that I could call `GetCtlHandleFromID` on the current window to find the TextEdit control and there would be no need for any global variables.) If you are going to write a request procedure to listen for Table Scraps, you should start your request procedure name with `Table Scraps~EGO Systems~` and then follow up with your program name. For example, Scrapie registers its request procedure with the name of `Table Scraps~EGO Systems~Scrapie~`. The request that Table Scraps will send to your procedure is named `scrapbookRequest` and its number is $BEEF. The `dataIn` and `dataOut` parameters are *exactly* the same as those for the `systemSaysDoClipboard` request. This way, when your request procedure sees the `systemSaysDoClipboard` or `scrapbookRequest` request, it can use the exact same procedures to display the scrap. (This includes calling all the Scrap Manager routines described above that are patched. I suppose that since I had to send a custom request, I could have changed the `dataIn` structure so that I didn't have to patch the Scrap Manager, but I figured that having smaller extensions and a little larger base program was better than having a smaller base program and larger extensions.)

Here, Have an Information Bar

One of the more interesting tricks that Table Scraps performs is putting those nifty little arrow icon button controls in the information bar. They're not really icon button controls since the window manager doesn't know how to put controls in the information bar. Also, using the control IDs for the icon button might conflict with the IDs that some request procedure creates . . . if controls were actually allowed in the information bar. But controls aren't allowed there, so this point isn't really valid, but it was a good thought in my initial planning stages. The nifty little arrow icon button controls are actually just icons drawn into the information bar. Whenever a hit is detected in the information bar, the hit is checked to see if it was over one of the arrow icons. If so, a custom tracking function is called which hilites the icon as long as the mouse is over the icon and the mouse button is still down. When the button is released, the icon is drawn normally and the final position is checked to see if it was still within the icon. If so, the fake icon button is assumed to be clicked on. It's a little more than using a control, but it's well worth it. Simply having keyboard navigation through the scrapbook wouldn't be very fun.

Table Scraps, while not the easiest program to write, was an extremely enjoyable programming experience, 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. *GS+*

Scrapie

By Josef W. Wankerl

Apart from being an often fatal infectious disease in adult sheep, Scrapie is a system extension which adds the ability to display four different scrap types to the system clipboard and the Table Scraps program. In their virgin states, the system clipboard and Table Scraps only know how to display plain text, sound, and picture scraps. Scrapie expands the list of displayable scrap types to include; styled text, icons, cursors, and resource references. All you have to do to take advantage of Scrapie is to install it using the Installer program supplied on your *GS+* Disk. Scrapie is a permanent initialization file which simply sits in the background waiting for the system clipboard or Table Scraps to ask it to display a scrap type. There is no user interface to Scrapie—you just install it, and it does all the work for you automatically.

The Source Code

Since there's not much else to describe on how to use the program, I thought an in-depth discussion of how Scrapie actually works would be in order. First off, Scrapie simply installs a request procedure to listen for the clipboard requests from either the system or from Table Scraps. Scrapie doesn't keep any global variables or extra memory relating to scrap data around, so it handles requests from the system and Table Scraps in *exactly* the same way. (This is part of the beauty of Table Scraps: It makes it extremely easy for people to write additional scrap display programs, since you don't have to write special case code for Table Scraps. You just handle displaying the scrap on a scrapbook page in the same way as you would for displaying scrap on the system clipboard window.) When a scrap request is received, Scrapie calls the routines for each custom scrap type (styled text, icon, cursor, and resource reference) in turn until one of them accepts the request. Simple enough, eh? So let's take a little closer look at how each of the types are displayed.

First let's look at the "boring" cases of the cursor, icon, and resource reference scraps. For the cursor scrap, the cursor information is retrieved from the clipboard, converted into a bitmap, and then painted in the display window. Converting the cursor to a bitmap is a fun process I first had to discover when programming Anna Matrix. So, to save some headaches, I just copied and pasted over a couple of Anna Matrix routines and modified them a bit to fit Scrapie's function. Icons are drawn in a similar manner, except that the `DrawIcon` call can be used to draw an icon—it doesn't have to be converted to a bitmap first. The icon text information is also drawn very simply in the window. The most boring case is displaying a resource reference scrap. All that's done is to take the text information describing the reference and display it.

The most interesting case to display is styled text. If Scrapie detects that a TextEdit based scrap is to be displayed, the tools that TextEdit requires are started up, if they aren't started already, and an invisible TextEdit control is added to the display window. The text and style information from the clipboard are added to the control when the control is created. Now, instead of calling `DrawControls` to draw the TextEdit control (as most other control-based displays would do), the `TEPaintText` routine is called to do the actual drawing of the text. There are a few reasons why this is better than simply showing the TextEdit control. First off, we don't want the user to be able to scroll through the text with a TextEdit scroll bar or edit any of it. But, most importantly, we need to know what the height of the text is. With just a control, it's not easy to find the height of the text and adjust the control height accordingly. However, if the text is painted, you can find the pen position after the painting has occurred and subtract the starting pen position to find out the height of the text very easily.

Content Height and Width

A scrap display routine passes back the height and width of the scrap it's drawn so the system clipboard window (or the Table Scraps window) can properly scale its scroll bars. Figuring out the height and width is not always obvious. For cursor scraps, the height and width can be computed using the information contained in the cursor data structure. For icon scraps, the height can be computed from the icon, and the width can be computed by finding the longest item drawn in the window. The longest item will usually be a string. For resource reference scraps, the width is found by finding the longest string drawn in the window. The height is found by finding the pen position after everything has been drawn (it will be on the baseline of the final line of text drawn), and then adding the size of the descender for the font as well as the leading (space between lines). For styled text scraps, the width is determined by looking at the ruler information. The height is found in exactly the same way as finding it for the resource reference scrap.

Scrapie Dapple Doo

That's everything to Scrapie. Being able to see additional scrap types system clipboard window and Table Scraps is a nice feature to have installed in your IIGS. *GS+*

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Working With the Toolbox Part 13: The Font Manager

By Josef W. Wankerl

I was looking over the list of uncovered tool sets so that I could pick a nice one to do for this issue, and the Font Manager looked like a fairly easy beast to tackle. As usual, I've provided a nice sample program on your *GS+* Disk which you can look at to see exactly how to make use of the Font Manager yourself.

Why a Font Manager?

If you look through all the Font Manager calls, you won't find one that will actually *draw* any part of a font. What the Font Manager does is manage groups of fonts. It finds fonts on disk and lets you switch fonts in and out of the system. To actually draw using a font, you make QuickDraw II calls. You could actually get away with not using the Font Manager to find your fonts and install them in the system if you wanted to. You could look in the fonts folder yourself and build a list of all the fonts there and then load them manually . . . but why bother when the Font Manager does all that work for you? For that matter, why bother using the tools at all? Well, since you're reading this, we'll assume that you already like using the tools and don't enjoy re-writing things that already exist.

Reading Up

First off, you should sit down with your copy of the *Apple IIGS Toolbox Reference*, volumes 1 and 2. In volume 1, you should read up on the Font Manager, where you'll learn all about families and sizes and styles and such. In volume 2, you should read up on QuickDraw II, specifically its treatment on drawing text, which starts on page 16-26. There is a *lot* of information on how QuickDraw handles fonts. You should be familiar with all of it, but for the most part, you don't have to be an expert on the subject. The Font Manager does a lot of the dirty work for you.

All In the Family

There are a few terms in regards to fonts that you should get straight. First, a font is comprised of a typeface, size, and style. A typeface describes the general appearance of a font. For example, you can usually tell the difference between the Helvetica, Times, and Courier typefaces. Each typeface has a name and number which identifies it to the system. (For example, the Helvetica typeface is named "Helvetica", and its number is $0015.) Font names are case sensitive. Every other attribute of a font is applied directly to the typeface. So, while Helvetica 10 point and Helvetica 12 point may be different fonts, they are both part of the same *family* (the Helvetica family). If you are going to be working with a number of different fonts, and you need to save the font family information in a file, the best way to do this is to save the family name, not the family number. The reason for this is that there are many more families than can possibly be assigned a system ID number. If you save the family name, which is guaranteed to be unique between all font families ever made (well hopefully), then you'll have all the information needed to identify that font.

A font is also comprised of a size, expressed in *points*. A point is a vertical typesetting measure which corresponds to 1/72 of an inch. However, on the IIGS, a 72 point font isn't necessarily one inch tall. Point sizes on the IIGS are mainly used to *relatively* distinguish different sizes of fonts. This means that a 10 point size will always be smaller than a 12 point size, *but only within the same typeface.* If the point size of a font actually corresponds to the 1/72 of an inch scale, so much the better, but don't count on it. Valid point sizes on the IIGS are 1 point through 255 point. (A zero point size doesn't make any sense—who would see something that is 0/72 of an inch tall? Also, QuickDraw and the Font Manager use a byte to keep track of the font size, so the largest size is 255.)

Finally, a font is comprised of different styles which are applied to the typeface. On the IIGS, the only styles which are supported are plain, **bold**, *italic*, underline, **outline**, and **shadow**. You can also mix any of the styles together, such as ***bold and italic***. Of course, you can't have a plain and bold style—the plain style is always by itself. (A plain and bold style would actually be just a bold style.)

Now, put this all together: A 10 point, italic, Helvetica font is different than a 12 point, italic, Helvetica font, which is different than a 12 point, bold and italic, Helvetica font. This is because the IIGS uses bit-mapped fonts and for every different attribute of a font, a different bit-map is needed. Sure, Pointless exists to let the IIGS use TrueType fonts so you don't need a bit-map for every size in a family, but I'll save the in-depth discussion of Pointless for a little later. For now, you can ignore Pointless, since its workings are transparent to the system. However, you should know the difference between a bit-mapped and a TrueType font . . . .

A bit-mapped font is a collection of every single character of a particular typeface, size, and style. Contrast this against an outline font (TrueType fonts and PostScript Type 1 fonts use an outline font technology) where an entire family and style is described mathematically—when a particular size of the typeface is required, the appropriate bit-map can be *rendered* and then drawn. So, when it comes down to it, an actual bit-map will be used for display no matter what font types you have.

Now it's true that if you have a plain styled font of a family (any size will do) on your disk, the Font Manager will use it as a base font to generate a different font with style and size variations that your program may call for, but only if a font with those attributes is not available. Of course, these variations are all based on the plain styled font which may not be of the appropriate size, so the variations will not always look good.

Now, to keep things straight before we go on, a *family* describes the entire range of sizes and styles that are applied to a typeface. A *font* is one particular instance of a family (typeface), size, and style combination rolled into a suite of bit-mapped characters.

Name, Rank, and Serial Number

For each font, you already know that there is a family name and an ID which uniquely identifies the family to the system. The Font Manager uses a *font ID record* to keep track of a family, size, and style combination for a font (see Figure 1). The font ID record uniquely identifies a specific font (collection of family, size, and style) to the system. You should keep the terms *font ID* (which is the internal ID number for a family) and *font ID record* (which is the complete description of a family number, size, and style) separate in your mind.

Supporting Fonts in an Application

If you're writing some kind of word processing program, you'll need a way for

Figure 1 — A Font ID Record

Offset	Name	Type	Description
$0000	famNum	word	family number of the font
$0002	fontStyle	byte	style of the font
$0003	fontSize	byte	size of the font

the user to change the typeface, size, and style of the font they want to use in a document. (Word processing is the best example I could think of—of course there are lots of other good reasons why you'd need to let a user specify the kind of font they want to use.) Typically, you provide the user with three menus to let them refine their font choice: The Font, Size, and Style menus. (Note that the Font menu chooses the family or typeface of the font, not the complete font itself. The menu should actually be named "Family" or "Typeface", but that wouldn't be consistent with all the other applications in the world which have a Font menu.) Maintaining a Font menu is pretty easy to do if you're writing an application program. The Font Manager provides three calls which make maintaining the Font menu trivial: `FixFontMenu`, `ItemID2FamNum`, and `FamNum2ItemID`. If you're writing anything besides an application program, you'll have to write your own routines. (The reason for this, and how to do it, will be discussed in the next section.)

The first call you'll make will be the `FixFontMenu` call. It walks through all the families installed on your system and adds each family name to the end of a menu you specify. You pass the call the starting item ID for the menu items you want added and a flag telling the Font Manager whether you want only base families added to the menu or whether all families, base or not, should be added. (Remember, a base family is one that has a plain style of the typeface which can be scaled and styled in case a bit-map isn't available for a particular size or style.)

Once all the items are added to the menu, you should call `CalcMenuSize` to tell the Menu Manager that the size of the menu has changed and to recalculate the menu bounds. Whenever the user chooses a family item from the Font menu (you can tell this because the item ID will be greater than or equal to the starting ID you passed to the `FixFontMenu` call) then you can make the `ItemID2FamNum` call to find out what family was actually chosen. Going the other way, you can make the `FamNum2ItemID` call to find out what item ID is assigned to a particular family.

Building size and style menus is pretty simple: You just define them as you would any other menu. Maintaining the menus is the most difficult part. The menus should reflect the state of the current font (or if something is selected, the font applied to the selection). When I say font here, I actually mean the typeface, size, and style attributes which comprise a font. The rules to follow to keep the menus up-to-date are as follows:

- The family of the current font is usually checked in the font menu.

- The size of the current font is usually checked in the size menu. The available (real) bit-mapped sizes are usually distinguished between sizes that aren't available (unreal) by setting the bold attribute (some applications use the outline attribute) on the size item if that size is available.

- The style of the current font is usually checked in the style menu. Multiple style attributes can be checked at the same time. Also, the name of the style in the style menu should be styled with its attribute. (For example, the Plain menu item should have the plain style applied to it and the Italic menu item should have the italic style applied to it. Styles should always be applied to the style menu items, not just when the item is checked.)

If there is a selection, only common selection elements should be checked. For example if a selection range covered two fonts, say 10 point, bold, Helvetica and 10 point, bold, italic, Courier, then only the 10 point item would be checked. (Both have the bold style set, but "bold" and "bold italic" are different styles.)

Another menu item, usually at the top of the Font menu, is the Choose Font menu item. The Choose Font menu item displays a dialog box allowing the user to choose the typeface, size, and style all in one convenient location instead of having it spread out through three separate menus. If you don't want to go through the hassle of creating the Font, Size, and Style menus, you can still provide font changing abilities with the Choose Font menu item. However, the separate menus makes changing only parts of a font much easier. You just have to decide which way is right for your application. The Font Manager has a routine, appropriately named `ChooseFont`, which will display the dialog box for you. All you have to do when the Choose Font menu item is chosen is call the `ChooseFont` routine and process the results. (The command key equivalent for the Choose Font menu item has traditionally been Command-Y. I think the very first program to use Command-Y for Choose Font was the TML Pascal compiler. Following the compiler's lead, Command-Y has almost universally been accepted as the equivalent for Choose Font, although some people have chosen other command key equivalents. This is not wrong, since Apple hasn't set the guidelines, it's just not very consistent throughout applications.) One important thing to note is that if a user chooses a font using the Choose Font dialog box, when the dialog is dismissed, the chosen font is installed. This means that any subsequent drawing the the current grafPort will be done in the chosen font. Usually this is not a desirable side-effect, so you have to explicitly re-install the system font after you have made the `ChooseFont` call.

Supporting Fonts Anywhere Else

The reason why only applications can use the `FixFontMenu` call is due to the fact that the Font Manager only maintains one master starting menu ID. When you call `FixFontMenu`, you pass it the starting menu ID and the Font Manager sets up to convert between family numbers and item IDs based on that one starting menu ID. If another non-application program were to come along and make the `FixFontMenu` call, it would almost certainly use another starting menu ID, and then when the host application tries to convert between family numbers and item IDs, it would receive bogus information since the conversion factor has been changed behind the application's back. To get around this, the three magic font menu routines must be duplicated within your own code. The Font Manger demo program gives a good example of how to do this. For a detailed description of what's going on, read the demo program description below.

Changing & Displaying Fonts

Once you know which font you want to

work with, the trick is then using that font to actually draw text in a grafPort. The hard way is to actually load the font in from disk manually and then use the QuickDraw `SetFont` call to make that font the current font for drawing. You'd then have to do some extra calls to expand the text drawing buffer in QuickDraw and a bunch of other setup junk. (Doing it the hard way also bypasses Pointless, so you wouldn't be able to use TrueType fonts!) Of course, there's an easier way, and it involves the Font Manager. All you have to do is call the `InstallFont` routine. This will tell the Font Manager to load the font from disk and make it the current font for drawing in the current grafPort. Once you have the font switched in, all the QuickDraw text drawing routines will use that font.

Pointless Worries

You might be wondering by now how Pointless fits into the grand scheme of fonts. Since the IIGS uses bit-mapped fonts for everything, what special coding is necessary to get Pointless to work? Well the answer is easy once you know how Pointless works. Pointless goes in and patches some Font Manager and QuickDraw routines to provide TrueType font support behind the scenes. When the Font Manager sees that you want a 12 point font and Pointless is installed, Pointless takes over and checks to see if that family is an available TrueType. If so, the font is then rendered by Pointless into a bit-map for the IIGS to use. You can then use the font just as you would any other font. It's as if you have every size of a TrueType font installed in your system. Actually, this is just a simplified view of what Pointless does, but it's enough to get the point across that you don't need to do anything special to support TrueType fonts from within your application . . . well not too much special.

There is one special thing you should keep in mind about Pointless. When you call `InstallFont` and the font you want is a TrueType, Pointless doesn't go out and generate bit-maps of every point size for that font. Instead, it waits for drawing to actually occur before it generates a particular size. Knowing this, when you install a TrueType font, there are initially *no* real fonts in that family installed! Only *after* you draw a character in that typeface does a real size become available.

A Nice Sample Program

As usual, there is a demo program on your *GS+* Disk which shows you how to take advantage of the Font Manager. First of all, it builds Font, Size, and Style menus and changes text in a window based on your selections in those menus.

The Font menu can be built by using the `FixFontMenu` call or it can be built by hand. The font menu being used is determined by the state of the Standard Font Menu menu item. When this menu item is checked, the Font menu built with `FixFontMenu` is being used. When the item is unchecked, the custom-built Font menu is being used. The program should operate in exactly the same way no matter which Font menu is switched in, otherwise the custom Font menu wouldn't be operating correctly. The first case of building the Font menu with the `FixFontMenu` call is trivial. The second case, building the Font menu by hand, is a lot more interesting to look at. The way to build the menu is to call `FindFamily` repeatedly until all the families have been looked at (in which case, `FindFamily` returns family number $FFFF). After calling `FindFamily` to find all the installed family names and their corresponding numbers, you build the Font menu. You have to remember the relationship between family names, family numbers, and menu item numbers, though. And, the Font menu is usually sorted by family name, so you have to sort all that information as well. While not a daunting task, it's not very fun to do in Pascal. The "classic" approach would be to build some kind of linked list or tree and then use a nice sorting algorithm. The approach I took is rather keen, I thought. I built a list of `memRecs` (a List Manager structure) and then sorted them using the Miscellaneous Library. This hides all the complex data structures and sorting. Note that a list control is not actually built, so I couldn't use the List Manager's `SortList` or `SortList2` calls—I *had* to use the MiscLib `SortMemRecs` call, since a list control isn't necessary for MiscLib to sort. To convert menu item numbers to family numbers and vice versa, I simply do a linear search through the `memRecs` until a match is found. Unless you keep around three separate lists, each sorted differently, I don't see a faster way to search through the list to find a match. (The list is sorted alphabetically, not by menu item number or family number.)

The demo program also knows about TypeSet, and will build the custom font menu using the current font set. It will even set the style for TrueType and bit-mapped font menu items based on the options set in Pointless. To support TypeSet, you just have to make a few `SendRequest` calls to find out the style to apply to TrueType and bit-mapped fonts, to find out if a font is a TrueType font or not, and to find out if a TrueType font is in the current set or not. All the logic should be visible through the comments in the demo program.

Whenever a new font is picked, the size menu has to be updated to reflect all the real sizes that are available in the new font. To find out if a real size is available, `CountFonts` is called for each size in question. If the number of fonts is not zero then the corresponding size menu item is set to bold, otherwise it is set to plain.

Whenever a new size is picked, the size menu has to be updated again, since Pointless may be installed. (The picked size may be a size not previously rendered by Pointless, and after drawing with that font size occurs, there will then be a real font in that size.) The size menu can't immediately be updated once a new size has been chosen simply because no characters have been drawn in the new size. To get around this, the size menu is updated to reflect the realness of the new size only *after* the sample display window has been invalidated and redrawn with the new font size.

Actually drawing the text sample in the window is a breeze. All that happens is that `InstallFont` is called to switch in the font chosen by the Font, Size, and Style menus, the text is then drawn with a call to `LETextBox2`, which handles wrapping the text, and finally the system font is then switched back in. Whenever a menu item is picked that will change the font, the sample font display window content region is invalidated so the draw routine will be called again.

That's All, Folks!

Using the Font Manager to your advantage isn't very difficult. The source code for the Font Manager Demo program covers a lot of font related material. If you find you need to do more than the Font Manager 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 Print Manager will take precedence over the Apple Desktop Bus tool set). I look forward to seeing your requests! *GS+*

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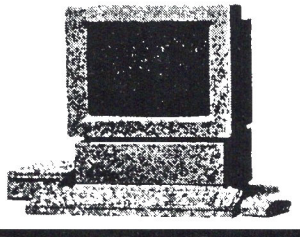

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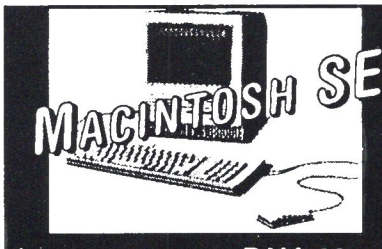

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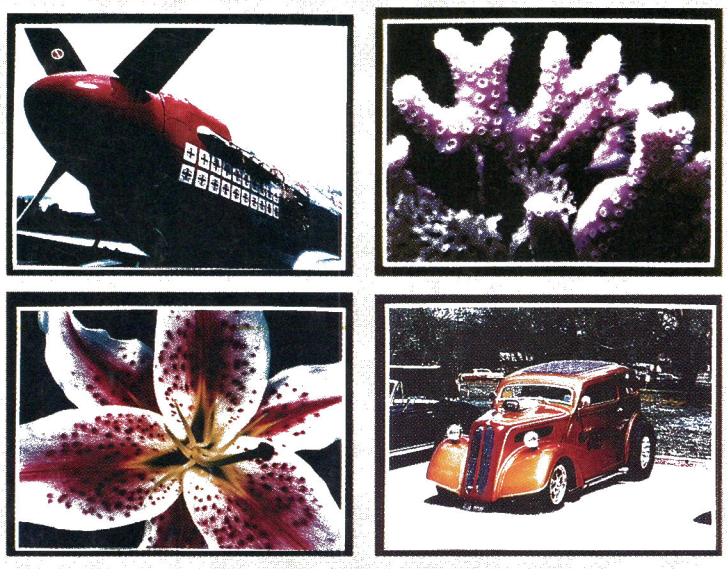

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