



May
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1995

Volume 6
Number 5

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

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Do You Need to Open "ZIP" and "ACU" Files?
We Tell You What You Need to Know!

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News on the Latest IIGS Products

Writer's Block

By Steven W. Disbrow

Well, I suppose I should start out this issue's editorial by explaining why AutoArk didn't ship when we expected it to: We found some problems and we had to fix them. But, that's all behind us now, and with any luck, by the time you read this we will have been shipping AutoArk v1.1 for a couple of weeks. Actually, the extra time that we had to spend fixing the problems we found was kind of a blessing in disguise. While the problems were being fixed, I gave the AutoArk documentation a good going over and pretty much rewrote it. So, if you order the complete AutoArk package from us, you'll not only get the latest version, you'll also get a brand-new manual. (If you already own AutoArk and just ordered the update, you don't *need* the new manual, but you can get it if you want it. The cost, including shipping, is \$5.)

Now that AutoArk is out the door, we can finally turn our attention to other projects! The first of these will *probably* be an update to Addressed For Success or Balloon (but don't hold me to that). Actually, none of our stand-alone products have any really serious bugs in them, so there really isn't any *need* to do any updates right now. However, there are a few new features that we'd like to add to just about all of our programs, so any updates that we do *will* be to add new features, which means they will take a bit longer to complete.

Speaking of AutoArk and Addressed For Success, you might have noticed that since we started selling these products we've been doing quite a bit of advertising for them here in *GS+* Magazine. Of course, we have to do this to sell the products, but what I want to know is, are we *overdoing* it? I definitely don't want *GS+* Magazine to become a "house organ" magazine, but, frankly, there aren't that many other advertisers out there for us to get. (By the way, if you are a potential advertiser, you should know that the feedback forms we have been getting indicate that our readers want to see even *more* advertising in *GS+* Magazine! So, please, give us a call!)

Where in the Other Worlds?

While we are on the subject of advertising, many of you have written to ask, "What happened to Other Worlds Computing?" Well, basically, they stopped advertising with us. But, we never really knew why. I called them up and asked them about it, and it turns out

that it was all just a misunderstanding. So, with a little luck, you should see new advertisements from Other Worlds Computing back in *GS+* Magazine very soon now.

Rest in Peace

If you are one of the few people that actually reads the **a.Read.Me** file on the *GS+* Disk, and you got last issue's disk, you already know that ICON (formerly Resource Central and publisher of *A2-Central* and other Apple II periodicals) is now out of business. If you don't already know, the basic reason for their demise seems to be that they projected that they wouldn't bring in enough money this year to cover their expenses. (Check out the press release on last issue's disk for complete details.) So, they decided to cut their losses and close their doors. This is a rotten development for several reasons:

First and foremost, the guys and gals at ICON were friends of ours, and I hate it when friends "move away."

Second, *A2-Central* and ICON's other Apple II publications were pretty darn good. An unfortunate side-effect of losing these publications might be that a bunch of people decide that it's time to abandon the II and move on. This will be bad for the *entire* Apple II community. (Another side-effect of this is that *GS+* Magazine is now the "old-timer" of Apple II related publications. Now *that's* depressing!)

Finally, this seems to be another case of a company that tried to branch out beyond the Apple II market, and failed. At this point, I think only Roger Wagner Publishing has had any real success in trying to do this. Why have all these other companies failed? Well, in most cases, the companies put all of their eggs in another basket, and the markets they tried to get into just weren't impressed with their products. However, ICON did the smart thing and tried to branch out slowly, yet they still failed. Why? At this point, I just don't know, but I do intend to figure it out!

Of course, this leaves the question, "What about KansasFest?" Well, at this point, an ad hoc group has plans to put on an Apple II show in Kansas City, at the same location and on the same dates. So, I guess at least KansasFest will live on!

TurboRez a Hoax?

As you might know by now, the TurboRez video enhancement board for

the IIGS is no longer going to be produced. (See the "Letters" section for the official word.) This announcement prompted several people to call or write to ask if the TurboRez advertisement that was in the last issue was an April Fool's joke. It was not. The fine folks at RezTek actually paid up front for that advertisement and I can only assume that they fully intended on producing the product when they placed the ad. Between the time they placed the ad and the time most of you got your magazines, they decided to pull the plug on the project.

(By the way, just in case you didn't figure it out, the big joke in the last issue was that there *wasn't* a big joke in the last issue. Ha! Ha!)

Back Issue Spotlight

Lately, lots of folks have been contacting us to complain that, although they want to buy some of our back issues, they can't really tell which ones they want from the descriptions that we publish in the magazine. This is a good point. Unfortunately, we just have too many separate issues still available to give each issue the in-depth description it deserves in the space that we have for the back issue advertisement. So, we are going to try something different. Starting with this issue, we will be "spotlighting" the contents of one back issue in the **a.Read.Me** file on the *GS+* Disk. This will allow us to give a much more detailed description of what's in that particular issue, as well as perhaps offering some sort of special deal on it. (But you'll have to check out the **a.Read.Me** file to find out what that deal is!) We'll spotlight a different back issue on each new *GS+* Disk, so we will eventually be able to get to them all.

Drat! Out of Space!

Well, I had a whole other topic that I wanted to discuss here, but it looks like I'm just about out of space. But wait! I *am* the publisher aren't I? I can do whatever I want in this magazine can't I?

Sure I can! I'll just pull Bob's review of Blockade and continue the editorial there. Ha! Ha! Here in *GS+* Magazine I am a god! I can do anything I want! None of you can stop me! I...

I forgot what I was going to talk about. Dang. Oh well, enjoy the rest of the magazine.

Diz

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GS+

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Letters

Dear GS+,

... I sent my five formatted disks in for you to copy System 6.0.1 onto ... I did receive the disks back but I can't get them to work. [Could] it be because my computer doesn't have enough memory? I have a ROM 03 with 1MB of RAM. I have one 3.5-inch disk drive and one 5.25-inch disk drive. What am I doing wrong? Do I have to upgrade my computer to get System 6.0.1 to work ...? Please help!

Pamela Von Olnhausen
Billings, MT

Well Pamela, you will indeed have to upgrade your system to make use of System 6.0.1. You need to have at least 2MB of RAM to be able to use System 6.0.1. Also, I would strongly recommend that you get a hard drive for your computer. Just about any of the mail-order firms that advertise here in GS+ Magazine should be able to help you to get both of these items. I would recommend that you buy at least a 4MB memory card (Sequential Systems makes a good one) and that you buy the largest capacity hard drive that you can afford. You will also need to buy a RamFAST SCSI card to use the hard drive. Now that I think about it, we published an article that addressed all of these questions about two years ago. It was called "The Basic IIGS" and it is available in GS+ V4N2. This article will tell you everything you need to have to get the most out of your IIGS.

It's might sound like a bit of a cliché, but with more memory and a hard drive installed, your IIGS will seem like a whole new computer!
Diz

Dear Diz:

I have a question that I hope you will be able to answer since you have your IIGS networked with a Mac. My question is:

If you have a CD-ROM drive on a Mac can you share the contents of a CD on the network?

Don Kramer
Calimesa, CA
Internet: zonerider@aol.com

Yes you can. As far as the Mac is concerned, the CD drive is just another drive, and the compact disc in it is just another disk that you have on-line. You simply share the files and/or folders on

the CD like you would the files and/or folders on your Mac's hard drive. They will then show up on the network just like you expect. (For complete information on how to use file sharing on your Mac, see your Mac documentation. If you have System 7.5 or later, just use the on-line Macintosh Guide to find the information you need.)
Diz

Dear GS+:

Great article on CD-ROMs for the IIGS! ["Mr. Priceguide Discovers CD-ROM" in GS+ V6.N4.] I have been using a RamFAST/SCSI card with an Apple CD 150 CD-ROM drive for about a year with no trouble. I have many of the DiscQuest titles, but have also recently purchased the AUGÉ CD, which I like a lot. Also, there is an interesting CD called "GIFs Galore" that you can buy from Walnut Creek CD-ROM (510-674-0783), that has tons of GIFs ... that you can convert with Prism or SuperConvert. There are a few funny things with this CD however. You have to do a cold system boot with the CD in the drive or GS/OS will never see it. Also, you need to select the "Show All Files" option from within Prism to see the GIFs before you can convert them. Other than that, you have access to hundreds and hundreds of great GIF files, mostly 256 color stuff. I'd love to find out about other CDs like GIFs Galore. I am particularly interested in the numerous clip art disks made for the Mac and PC, but they seem to have either PICT or EPS formatted graphics which cannot be accessed by any IIGS program I know about. Do you know of any clip art CDs that use GIF format or maybe MacPaint?

Gary Calabrese
North Andover, MA
Internet: FermiLevel@aol.com

I'm glad to hear that you liked the CD-ROM article Gary! And thanks for the information about the GIF CD! Hopefully, your letter will inspire our other readers to write in and let us know about CDs that they have gotten to work with the IIGS. As for the clip art CDs ... you should be able to at least print EPS graphics using our LASERBeam program (from GS+ V5.N4). The only catch is that you won't be able to actually convert these to anything usable with other IIGS programs, and you'll need to have a PostScript printer just to print them out. Of course, someone out there might know

of a program that can convert Macintosh PICT files into something that we can use ...
Diz

Hi Diz!

I read the Letter in the March/April 1995 GS+ Magazine from the user having Unix problems. I think this user was referring to more advanced Unix problems but I thought some of your readers may be interested in a *very good* Unix tutorial now available on the Internet.

In 1991, when I was struggling to learn some basic Unix, my son wrote a Unix tutorial for me. The idea of his tutorial was not to teach me everything there is to know about Unix (impossible!) but to teach me enough Unix such that I could explore on my own. The tutorial assumes some basic Apple II knowledge (what else!) and is written such that "even a mom" can understand it! The resulting tutorial is a 95K text file composed of 7 chapters or 14 "daily lessons."

Daniel Simmons has made the tutorial available at the following FTP sight: "ftp.nicoh.com". The actual tutorial can be found in the file "/pub/misc/unix.tutorial.z".

Jeanne Chappell
Overland Park, KS
Internet: jchappell@tyrell.net

Thanks for the info Jeanne. I checked out the tutorial myself, and it is pretty good. It's especially cool that so many of the examples are written with the Apple II user in mind! However, I do need to note that this file is stored in Unix Compress format (which is what the ".z" at the end of the file name indicates), so you will need to use GS-ShrinkIt to expand this file. After you have expanded the file you should run it through a utility that can change line feeds into carriage returns (like Spectrum). Otherwise, you'll have a devil of a time reading the file! (By the way, I wanted to put this file on this issue's GS+ Disk, but even when it's compressed it takes up almost 50K, so we just didn't have the room for it.)
Diz

Dear Diz,

In your last two issues of GS+ Magazine you said not to use the ImageWriter.CL driver. [However,] if I use the ImageWriter driver [that comes with the System Software] when printing labels [from AppleWorks GS, only the first field

of data prints on the label.] When I use the ImageWriter.CL driver, the labels print properly except that the printout moves up just slightly with each successive label . . . Please help!

George Kirby
Valencia, CA

Well, I've never heard of this problem before and I really don't have enough information to give you an iron-clad explanation as to what's going on. Since you didn't mention which version of AppleWorks GS you are using, my best guess is that you are using one of the older versions that works best with the ImageWriter.CL printer driver, and which does not work well with any of the newer printer drivers that are available. If you are using an older version of AppleWorks GS (the "latest" version is 1.1), then you should contact Quality Computers (800-777-3642) about getting an upgrade as soon as possible. If you are using the latest AppleWorks GS, about the only advice I can give you is to reinstall your System Software and see if that helps any. (If anyone else out there has experienced this problem, please let me know and we'll try to come up with a solution.)

Your letter also brings up another point that I suppose I should talk about. As the Apple II market has gotten smaller, I've noticed a big increase in the number of phone calls and letters that we've gotten asking for help with "orphaned" products. This is OK with me, but . . . When you contact us asking for help with a product that isn't ours, please be sure to include as much detail about the problem as possible. While Joe and I do have a lot of Apple II experience between us, there is no way that we could ever be familiar with every Apple II product that was ever produced, so every bit of information that you can supply us with will be a big help.

Of course, in some cases, I can fake my way through it. As an example, consider our next letter . . .

Diz,

. . . I have a Rana Elite III drive and interface card. Is there a way known to man that this could be used with the IIGS? Perhaps through the smart port, directly into a slot, or with a SCSI card . . . ?

Don Canfield
Jacksonville, FL

Well Don, I saw a Rana disk drive once, back in 1981 (I think), but that's the

extent of my experience with them. I asked Joe about it and he had only just seen one too. (As I said before, the Apple II market was just too wild and woolly for us to be experts on everything that came out during its heyday.) However, common sense does suggest a course of action here. I do know that the Rana drives came out before the IIc (which introduced the smart port), so there is no way that this could be a smart port device. Along the same lines, the Rana drives came out before the Mac, which means that SCSI devices hadn't become "mainstream" yet, so scratch the SCSI option. However, your letter does indicate that there is an interface card for the drive. So, my advice is to plug in the card, hook the drive up to it and try it out. (But please don't blame me if the card starts smoking when you turn on the power!) I doubt it will work from any desktop programs (because there is no GS/OS driver for it), but you might be able to use it from ProDOS 8 programs.
Diz

Dear Sir,

As the Grand Rapids Apple II User Group newsletter editor, . . . can I reprint any of your articles or ads for our membership? . . . Can I write articles for your magazine? How would you like them submitted and when are the deadlines . . . ?

Joseph C. Sivins Sr.
Grand Rapids, MI

I'm afraid that we don't currently allow reprints of any part of GS+ Magazine. Sorry. However, we are always looking for new writers to help us out with GS+ Magazine. Our writer's guidelines are in a file called Writers.Guide on the GS+ Disk. If you don't get the GS+ Disk (or if the Writers.Guide file was left off of a particular issue's disk), you can get a copy of our writer's guide by sending us a self-addressed, stamped envelope.
Diz

Dear Sirs:

. . . Is it still possible to find a PC Transporter? And, when you find one, can it run Windows . . . ?

Gulotta Pierfrancesco
Genova, Italy
Internet: pierfrancesco.gulotta@galactica.it

The folks at Alltech (619-724-2404) tell me that they have a few PC Transporters left. (They also have lots of the accessories that go with the PC Transporter.) Give them a call to check on pricing. I don't have any personal experience with the PC Transporter, so I

can't answer your second question. However, our good friend Erik "Lurch" Kloepfel does know the answer to this question, so I asked him for his expert advice. He told me that you can indeed run Windows version 3.0 on a PC Transporter, but it is very, very, slow. (Lurch isn't sure about running Windows version 3.1 though, so you might want to steer clear of that.) Lurch also wanted me to mention that, to use windows on the PC Transporter, there are a few things that you need to make sure of:

First, make sure that you are using MS-DOS v5.0 on your PC Transporter. Second, when you purchase Windows v3.0, make sure it is on the appropriate disk media. (i.e. Don't buy it on 1.44MB floppies if you don't have a 1.44MB floppy drive that you can use from your PC Transporter.) Finally, when you are buying applications to run under Windows, make sure that they don't require a 286 or 386 processor. If they do, they probably won't run on the PC Transporter. Finally, be prepared to do a lot of waiting! Windows running on a PC Transporter is slow!

Diz

Dear GS+:

Could you tell me where I can purchase a Kensington System Saver for my IIGS?

Arthur Perlov
Rio De Janeiro, Brazil

Sadly, no. I tried contacting some of the big names left in IIGS mail order (Quality, Alltech, etc.) and none of them had any for sale. I called Kensington and was told that they had stopped making them and that they had no more in stock. So, your best bet is to find a used one by either posting a want ad here in the GS+ Magazine Classifieds, or on the Internet in the comp.sys.apple2.marketplace newsgroup. (If anyone out there has a System Saver IIGS that they want to sell, you could place a "for sale" ad in either of these same places. I know you'd have at least one interested buyer!)

Diz

Dear Diz,

I keep reading these dire warnings about not using Copy II+ but you never say exactly why nor mention which version was used when bad things happened. I know Copy II+ doesn't know about resource forks, but would it write over them? How could merely cataloging a disk wipe it out? [Copy II+] is useful for seeing a tree catalog of your disks . . .

. . . Thanks for your good magazine, even though I don't understand half of it (my

fault, not yours), and the help you are giving us diehards.

Geraldine Engleman
Mexico

You make a good point Geraldine. I was wrong to print those warnings without being more specific. Actually, Copy II+ probably can't trash a disk just by cataloging it. I think that the writer of that letter (from GS+ V6.N3) probably meant to say that they had tried copying a file with Copy II+ when their hard drive got trashed.

However, the generic warning against using Copy II+ is still a valid one. Here are just a few of my personal reasons for not using Copy II+:

1) Copy II+ (version 9.x) was buggy as all get out. People had begun to stop using it even before the problems with resource forks began cropping up.

2) Copy II+, being an 8-bit program, does not know how to handle resource forks. The results of trying to use Copy II+ on a program with a resource fork can range from the operation simply stopping to Copy II+ trashing a disk. And, since Copy II+ doesn't give you any way to identify which files have resource forks, you can never be sure which file is going to cause Copy II+ to behave badly.

3) There are lots of desktop programs (notably the Finder) that perform almost all of the tasks that Copy II+ does. About the only things missing are the copying of protected software and the "tree catalog" that you mentioned.

Copy II+ was a cool program in its day (the fact that it even existed was one of the many reasons that I bought my first Apple II), but it's just too buggy and unpredictable to safely use.

I also wanted to address the last line that I printed from your letter. You say that it's your fault and not ours that you don't understand a lot of what is in GS+ Magazine. Well, I suppose that it is the responsibility of our readers to let us know when we are going "over their heads." But, it's also our responsibility to let everyone know that we really are interested in knowing what you want to see in GS+ Magazine. For example, I recently got a letter from an expired subscriber that told me, in a rather nasty way, that he wasn't going to renew because the content of the magazine was impossible for him to understand. On the one hand, I was upset that he had waited until after his subscription had expired to

tell me about the problem. On the other hand, I can't help but wonder if we make it absolutely clear that we are always looking for ways to improve GS+ Magazine, and that we can't do it unless someone out there lets us know what needs improvement.

So, the bottom line, as always, is that I'm grateful to everyone that takes the time to write, but I wish that more of you would!
Diz

Diz:
Just received my first issue of GS+ Magazine today. Your review of FAXination certainly got my attention. I just received my copy along with a letter stating that an update would be available on the Vitesse BBS the first week in March. I called the board (not cheap from Alaska), registered, etc. but found no updates.

If I had read your review a week ago, I'd be a lot better off (financially). Thanks for an excellent magazine

Moses F. Hudson
Kenai, AK

I got a lot of letters about the FAXination review, most of which agreed with what I said. There were a few folks that thought I was unfair to Vitesse, to which I can only say, "You should have seen the first draft!" Anyway, out of all those letters I picked yours to run because you actually FAXed it to me with FAXination! This simple fact shows that Vitesse has (as I hoped) been busting their collective hump to get FAXination fixed. Apparently, you got one of the later, more stable, versions that can actually send FAXes correctly. Over the last few weeks, more and more FAXination success stories have been popping up on the Internet, and we've been getting more and more FAXination generated FAXes. (Which reminds me, please don't use our FAX machine just to test out your copy of FAXination! Orders, letters, feedback and problem forms are OK [that's why we have the FAX machine], but please, no "Testing, 1, 2, 3" FAXes.) This is extremely good news for everyone that bought FAXination early on. It's also good news for Vitesse because, frankly, the first version of FAXination should never have been released. But, it's mostly fixed now, and the IIGS community is better off because of it.
Diz

Diz,
. . . At my job, I use an IBM 486 computer, mostly for word processing (WordPerfect 6.0 for Windows) I

often take work home, and it would be very advantageous if I could access the WordPerfect documents on my home computer, so as to read and revise the documents, with the ability to then retrieve the revised documents in WordPerfect on the IBM. I've seen the "BlueDisk" advertisements in your magazine and am curious as to whether it could accomplish that task. If so, what additional hardware and/or software would I need and how difficult a process would it entail . . . ?

Roy Mongrue
Baton Rouge, LA

Well, the BlueDisk controller can't do it alone, but it comes pretty close. Here's one step-by-step solution for your problem:

1) First of all, you need a disk drive capable of reading and writing data on MS-DOS disks. You can do this one of two ways:

- *Using a BlueDisk controller and an IBM-style disk drive.*

- *Using an Apple II SuperDrive Controller Card and an Apple SuperDrive.*

Hooking one of these hardware combos up to your IIGS will allow you to read MS-DOS disks from any properly-written IIGS program (if the MS-DOS File System Translator [FST] is installed). Writing to an MS-DOS disk will require Peter Watson's shareware MS-DOS utilities (see review in GS+ V5.N5). This software comes with the BlueDisk controller. If you go the SuperDrive route, you would have to find this software on your own. Of these two choices, the SuperDrive combo is what I have personally tested. However, since SuperDrive controller cards are very hard to come by these days, the first option is probably the better (not to mention cheaper) one.

2) Once you have your MS-DOS drive hooked up to your IIGS, you will need to use WordPerfect (at work) to save the files you want to bring home in a format called "RTF". "RTF" stands for "Rich Text Format," and it is a document format invented by Microsoft to allow documents to be easily moved between different computer platforms with formatting intact. Once your document is on an MS-DOS floppy in RTF format, bring the disk home.

3) Once you have the RTF document at home, you can use our own EGOed v2.0

(from GS+ V5.N3) text editor to load and work with it. EGOed v2.0 can read RTF files and convert them into Teach files that you can edit on the IIGS. If your file had complex formatting options in it (like multiple rulers or page breaks) those things will be lost in the translation. But, EGOed v2.0 will preserve the fonts, sizes and styles used in the document. You can then edit the file in EGOed and save it back out in RTF format.

4) Note that when you save the file, you will have to save it on a disk other than the disk you brought from work. This is because the MS-DOS FST that comes with the IIGS System Software doesn't allow you to write to MS-DOS disks. This is where Peter Watson's MS-DOS utilities come in. You can use these utilities to copy the RTF file you made with EGOed back to your MS-DOS disk.

5) You can then take the disk back to work with you and load it into WordPerfect. WordPerfect should be able to translate the RTF file back into WordPerfect format.

So there you have it. About the only other advice I can give you is to make sure that WordPerfect can actually read and write files in RTF format before you go spending any money on any of the hardware that was mentioned in step 1. (For more information on the BlueDisk card, check out Lurch's review of it elsewhere in this issue.)
Diz

Dear Sir:

I have several IIGS related questions and would appreciate your help

. . . I would like to know where I could obtain some software for my Apple IIGS. I am especially . . . interested in business software and software that could print out invoice forms. BusinessWorks by Manzanita Software and Personal Accountant by Softsync, Inc. looked useful. TimeOut Superforms and BPI IC were not very helpful to me. I already have catalogs from Quality Computers, Sun Remarketing, TCA, Adrian Vance, and Alltech. Please tell me the addresses of other companies that sell Apple IIGS compatible software.

Would a GS-RAM memory expansion card work in one of the slots at the back of the computer (like slot 7) . . . ?

I am considering purchasing the ZipGS . . . but I am worried that old (1MHz) applications won't run on an accelerated IIGS. Would they? Also, the advertisement in your magazine said that

the ZipGS must go in slot 3 or 4. Would this disable the mouse or 80 column display . . . ?

I would like to know where I could get some technical reference manuals for the IIGS

Harriet B. Hoxie
Quincy, MA

It sounds like you've covered just about all of the bases as far as Apple II mail order companies are concerned. I really don't know of any other companies to tell you about. Your best bet would probably be to take your search to the various online services and see if anyone there has a copy of BusinessWorks or Personal Accountant that they would be willing to sell you. If you don't have access to an online service, you might want to contact Joe Kohn at Shareware Solutions II (166 Alpine St, San Rafael, CA 94901) to see if he has anything in his vast shareware catalog that you could make use of. (Also, if you haven't actually called those companies that you have catalogs for, I would advise you to do so. Companies don't usually put everything they have in the warehouse in their catalogs, so it's possible that they may have something you need in their storeroom.)

IIGS-specific memory cards only work in the memory expansion slot. They will not work in slots 1 through 7.

Old applications will indeed run with a ZipGS in your system. The only problem you might have is that some applications might run too fast. If that is the case, all you have to do is turn down the speed of the ZipGS card (this is done using a Classic Desk Accessory that comes with the ZipGS) before you run the affected program. Also, installing a ZipGS won't override the function of the slot you plug it into. The ZipGS only uses the slot to draw power from.

Finally, your best bet for IIGS technical manuals is to contact the Byte Works, Inc. They are the current home of all of the Apple-produced technical information on the Apple II. Their phone number is 505-898-8183 and they should have an ad in this issue of GS+ Magazine.

And finally . . .

Dear GS+ Readers:

As of March 7, 1995, production of the TurboRez GS board has been suspended and will not be resumed. It's been a long, difficult path over the years, with various versions of the product appearing periodically. At this point, however, the

project is being laid to rest and RezTek will not be developing any standalone video boards for the Apple II in the future. Despite getting about as close as we've ever been to completing the product, there's no arguing with the fact that the competing board from Sequential Systems is not only beating us out the door by 3-4 months but also has the clear advantage in the price category. Rather than subject ourselves to an economically bruising battle and putting the Apple II marketplace thru a VHS/Beta type product war, we decided this was the best course of action. This will insure a single, standard upgrade path.

So, for those Apple IIe/IIGS users who are interested in enhancing the video output of their computers, we'd like to suggest and recommend the Second Sight video card from Sequential Systems (which should be shipping right about now). Sequential is a company known for putting out solid, well-designed products in the past, and the Second Sight card looks to be no exception.

Here at RezTek, we're looking into the possibility of supporting the Second Sight product sometime in the future. Whether or not this actually happens depends on how strong sales of the Second Sight card are, etc. We'd be selling to a subset of Second Sight owners only, so their total volume will obviously influence any production decisions on our part. Stay tuned

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We can't read your mind! If you have something to say about GS+ Magazine, you have to let us know! So don't just sit there and stew! Write us a letter! If you don't, it's nobody's fault but your own!

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. If you don't include one of these things, we will try to answer your letter in a future issue of GS+ Magazine.

Please address all letters to:
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GS+

When the first version of the Apple IIGS Finder was released, Apple defined a fairly simple type of file (which is called a *Finder Icon* file) that was used to hold the icons that the Finder would use to represent the devices and files that users had on their systems. Well, OK, the format of the Finder Icon file wasn't *that* simple, so it took a while for IIGS programmers to come out with programs that would allow users to load in their icons and change them. But, over the years, a couple of good icon editing programs (DlEd and IconEd) did appear, and they became standard equipment for just about every IIGS owner that was even remotely interested in personalizing his or her system. These icon editors worked and they worked well. Strange and wonderful icons were a hot commodity for a few years (*GS+* Magazine even used to have regular department devoted to showing off subscriber drawn icons), and everyone that dabbled in icon editing felt just a little bit more like a "power user."

And then, just when everyone thought they had icons figured out, Apple released System 6.

When System 6 came out, it had a brand-new Finder, and that brand-new Finder had a brand-new (and improved!) way of handling icons. Icons were no longer grouped into separate files. Instead, icons could be kept as *resources* inside of any type of file. By looking for these icon resources (which are called *rIcons*, which is shorthand for "an icon kept in a resource") and copying them out into a special (and invisible) **Desktop** file, the Finder could more efficiently manage and track the icons that it used. The only problem was that these icons couldn't be edited by any of the icon editors that were out there. Of course, techno-geeks (like, uh, me) had access to programming utilities that would let them edit these icons, but there wasn't a simple, end-user-oriented icon editor that could edit these icons. Well... Now there is.

ICE (which is short for "Icon Editor") is a IIGS application that will allow you to *easily* edit just about any IIGS icon that you want to. In fact, after you see what ICE can do, you will probably throw out your other icon editors! Don't believe me? Check out these features:

- ICE can edit old-style Finder Icon files.
- ICE can edit *any* rIcon from *any* type of IIGS file.

- ICE can have as many Finder Icon and rIcon files open as memory will allow.

- ICE can copy and paste icons *between* Finder Icon and rIcon files.

- ICE can create new Finder Icon files and new files containing rIcons.

- ICE can append rIcons from one file onto another file.

- ICE can save icons (either kind) out to disk as REZ source code.

- ICE allows you to paste a *picture* from the IIGS clipboard for use as an icon.

Those are just the features you'll notice right off the bat. As you read through the ICE documentation (below) you'll find lots of other really cool things that ICE can do. But, before you can start using ICE, you need to install it.

Installing ICE

Since ICE is a stand-alone application, you can run it directly from your backup *GS+* Disk if you wish. However, you will probably want to copy it to your hard drive for normal use. (ICE requires a hard drive and System 6.0.1 to run properly.) To install ICE on your hard drive, you can just copy the ICE program file out of the **Programs** folder on your *GS+* Disk and into a folder on your hard drive. (You can also install ICE using the Installer on your *GS+* Disk. For more on this, see "How to Use Your *GS+* Disk" elsewhere in this issue.)

However, if you have been using an old icon editor, copying ICE to your hard drive is just the first thing you should do. Like many IIGS applications, you can open data files in ICE simply by double-clicking on them in the Finder. (In particular, you can double-click on Finder Icon files and **Desktop** files and ICE will launch and open them.) However, an older icon editor will "compete" with ICE for those files that you double-click on. And, because the older icon editor was on your system first, it will probably win. So, you will need to "disconnect" your old icon editor so that it can't open the files that you double-click on. To do that, run the Finder, and then follow these steps:

- 1) Pick the Preferences menu item from the Finder's Special menu. When the preferences dialog appears, make sure the preference to hide invisible files is

turned *off*. Click the Accept button to close the preferences dialog.

- 2) Figure out which disk your old icon editor is on. (This will probably be the hardest part!)

- 3) Open that disk and then open the **Icons** folder on the disk.

- 4) Inside the **Icons** folder, there should be a Finder Icon file that goes with your old icon editor. If you were using IconED, that file will be named **IconEd.Icons**. If you were using DlEd, that file will be named **DlEd.ICONS**. Whichever file it is, either trash it or simply move it *out* of the **Icons** folder. (If these files aren't in this **Icons** folder, check the **Icons** folders on your other on-line disks. It's very important that you get rid of these files for ICE to be able to work properly.)

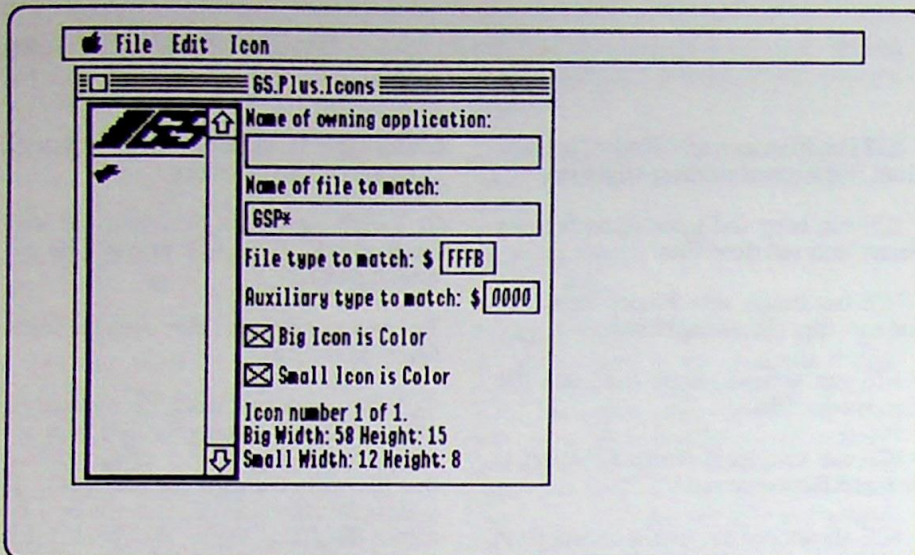
- 5) Inside the same **Icons** folder you will see a file called **Desktop**. Trash this file. (Don't worry, the Finder will rebuild this file as you go about using your IIGS.) Note that you should only trash the **Desktop** file that is in the same **Icons** folder as the file you found in step 4.

That's it! (If you want, you can reset the preference you fiddled with in step 1.) Now, install ICE on your system and then run ICE from the Finder. (Running ICE will tell the Finder to link ICE with the files that you want to be able to double-click on. In other words, you won't be able to double-click on a Finder Icon file and have ICE load it until *after* you run ICE at least once.)

The Windows of ICE

ICE is based on the philosophy that "an icon, is an icon, is an icon!" And, while this is true in the strictest sense, on the IIGS, icons can be stored in two very different ways. In fact, these storage methods are *so* different that ICE has to go to a lot of trouble to massage things so that, as far as the user is concerned, "an icon, is an icon, is an icon!"

However, it is important that you be able to tell whether or not the icons you are working with came from a Finder Icon file, or if the icons are actually rIcons that came from the resource fork of a file. Towards that end, ICE has three different types of windows that you will interact with when you use it. Two of these windows hold lists of icons from each of the different types of icon files that ICE can open. These windows are called "Finder Icon list



windows" and "rIcon list windows," respectively. The third type of window is the window that you use to actually edit the image and mask data for a particular icon. (If you don't know what an "image" or a "mask" is, stop right here and go read "Understanding IIGS Icons" elsewhere in this issue.) This is called an "Icon Editor" window. Let's look at these three windows and see how to use each of them.

The Finder Icon List Window

When you create a new Finder Icon list window (either using the New menu item or by opening a Finder Icon file) you will see a window like the one shown in the first screen shot. On the left-hand side of the window is a list which will show you the icons that were in the file you opened and/or the icons you have added to the window.

This is a good place to point out that, in Finder Icon files, icons are grouped in pairs. Each pair of icons consists of a large icon and a small icon. Each icon pair is used by the Finder to represent one application or device or a single type of document. The large icon is used by the Finder when it is displaying items in "large icon" view. The small icon is used by the Finder to represent the same items when displaying a "small icon" or "list" view. (For more on these different Finder views, check the documentation that came with your IIGS.)

Older icon editors forced you to switch between viewing and/or editing either the large or small icon at one time. ICE, on the other hand, actually shows you both the large and small icons at the same time. The large icon is shown first in the list, with the small icon just below it. A black line divides the two icons in the icon pair. We'll come back to the icon

list in a moment. For now, let's look at the contents of the rest of a Finder Icon list window.

The remainder of the Finder Icon list window is filled with information about the icon pair that is currently selected in the icon list. At the top of the window is a LineEdit control labeled "Name of owning application". This field contains the pathname to the application that creates or "owns" the type of document file that this icon pair represents. When you double-click on a document file represented by this icon, the Finder looks at this pathname and tries to run the application program that it specifies. If this icon will be used to represent an application (i.e. not a data file), this field should be empty.

Just below this first field is another LineEdit control labeled "Name of file to match". If this icon is supposed to match only one file, this field should contain the exact file name that you want it to match. For example, if this icon is to be shown only for a file named **Unique.Data** then you would type "Unique.Data" into this field. If you want this icon to represent multiple files based on a partial file name match, you can use the "wildcard" character (an asterisk "*") in this field. For example, if you typed "*TXT" into this field, this icon would match the files named **Fred.TXT** and **Ethel.TXT** but it would not match the file **RickyTXT** or **TXT.Lucy**. Finally, if you want this icon to match *all* of the files that have a specific file type and auxiliary type (see below) you would simply type an asterisk into this field.

The third and fourth fields in this window are also LineEdit controls labeled "File type to match" and "Auxiliary type to match", respectively. You use these fields

to specify the file type and auxiliary type for the files that you want this icon to represent. These values must be specified in hexadecimal. (Don't worry, if you don't know the hexadecimal file type and auxiliary type numbers for any type of file, check out Table 1. It contains a listing of all the currently defined file types and auxiliary types.) If you put a value of zero in either of these fields, it tells the Finder that you want it to match *all* file types and/or auxiliary types.

(Now, at this point, we've looked at three "match" fields: the file name to match and the file type and auxiliary type to match. It is important to realize that an icon will only be used to represent a file if *all three* of these fields match the file. If any of an icon pair's three match fields do not match a particular file, that icon pair will not be used to represent that file.)

Below the auxiliary type field are two check boxes labeled "Big Icon is Color" and "Small Icon is Color". These check boxes tell you if the Finder will treat these icons as color or black and white icons. (It doesn't matter if there are any colors in the icon, if this check box is turned off, the Finder will treat the icon as if it was black and white. For more on how the Finder treats "color" icons, see "Understanding IIGS Icons" elsewhere in this issue.)

Finally, at the bottom of the window is a count of the number of icon pairs in the list, as well as an indication of the dimensions of each icon in the icon pair.

Editing a Finder Icon

Now that we know what all of the information displayed in a Finder Icon list window is, let's look at how you change that information.

Well, you can probably figure out how to change the information in the LineEdit controls and the check boxes. To change the information in a particular LineEdit you simply click on it and start typing. (Note that you can also press the tab key to move from field to field.) All of the standard IIGS editing key will work in any of these fields. And to change either of the check boxes, you simply click on them with the mouse.

The "tricky" part comes when you want to edit one of the icons in the icon list. Actually, it's not tricky at all! To edit an icon, you simply double-click on it with the mouse. If you want to edit the big icon in an icon pair, just double-click on the big icon. If you want to edit the small icon in an icon pair, simply double-click on the small icon (i.e. double-click

below the line that divides the two icons). If the large icon in an icon pair is *so* large that you can't even see the small icon, simply hold down the option key while double-clicking on the large icon and ICE will automatically bring up an Icon Editor window with the small icon in it. (For more on Icon Editor windows, see below.)

Note: It can sometimes happen that an icon pair will have just a large icon in it. If this is the case, simply double-click in the appropriate place (i.e. below the dividing line) and ICE will present you with an Icon Editor window containing a new small icon for that icon pair.

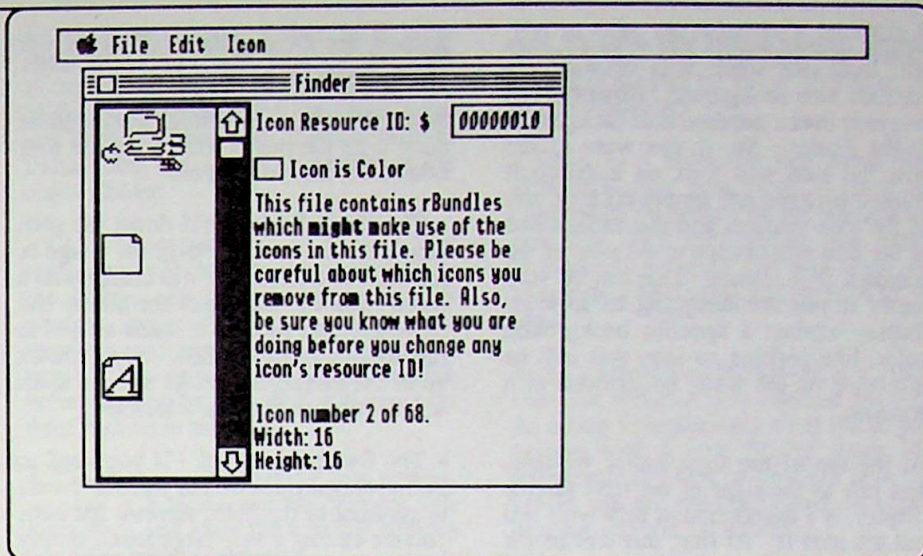
That's all you need to know about using a Finder Icon list window. Let's move on to . . .

The rIcon List Window

When you create a new rIcon list window (either using the New rIcons menu item or by Opening a file with rIcons in it) you will see a window like the one shown in the second screen shot. On the left-hand side of the window is a list which will show you the icons that were in the file you opened and/or the icons you have added to the window.

The main thing to notice in this list is that, unlike the Finder Icon list window, rIcons are dealt with one at a time and *not* in pairs. Other than that however, this list behaves the same as the icon list in the Finder Icon list window. So, let's look at the rest of the information presented in the rIcon list window.

At the top of the rIcon list window is a LineEdit control labeled "Icon Resource ID". Contained in this field is a unique eight-digit hexadecimal number that identifies the currently selected icon in the resource fork of the file that these rIcons belong to. If you wish, you can change this number to a different value. However, if you do so, ICE does not check to ensure that the number you have typed is a unique resource ID. ICE will also warn you that changing the resource ID of an rIcon could "disconnect" that rIcon from other resources in the file. This could render the file unusable and even cause your computer to crash at some point in the future. Why is this? It is because when you use ICE to open a file containing rIcons, there could very well be other resources in the file that make use of the rIcons that ICE lets you edit. However, ICE only shows you the rIcons in the file, so you won't see those other resources. In general, unless you are absolutely 100% certain that you know what you are doing, you should *never* change the resource ID of an rIcon.



Below this first field is a check box that tells you if the currently selected icon will be treated as a color icon by the Finder. This check box works in the same way as the "Big Icon is Color" check box that was discussed in the section on Finder Icon list windows, above.

Beneath the check box is an informative message that can give you a better idea of how careful you should be when working with the rIcons in this file. Earlier, I mentioned how rIcons can be used by other resources in a file. There is one type of resource in particular that makes extensive use of rIcons. Those resources are called *rBundles* and if they are present in a file, you probably should *not* change the resource ID of any rIcon and you absolutely should not *delete* any rIcons from a file. If there are any rBundles in the file you have opened, ICE will display a warning message in this space. If there aren't any rBundles in the file, ICE will inform you of that fact as well. Note that the absence of rBundles doesn't mean that it is safe to change rIcon resource IDs or to delete icons from the file! It just means that it's not as dangerous as it might otherwise be.

If all these warnings have scared you, don't worry. Just remember that when working with rIcon list windows, you should stick to just changing what the icons look like. If you do that, everything should be fine!

Finally, at the bottom of the rIcon list window is a count of the number of icons in the list, as well as an indication of the dimensions of the currently selected icon.

Editing an rIcon

Editing an rIcon is even simpler than editing a Finder Icon. Simply double-click on the icon you want to edit and

ICE will open an Icon Editor window containing that icon. Speaking of which, let's take a look at the last type of window that ICE uses.

The Icon Editor Window

When you double-click on an icon in either a Finder Icon or rIcon list window, ICE takes that icon and places it into an Icon Editor window. (See the third screen shot.) The Icon Editor window allows you to edit the icon's image and mask, to fine-tune exactly what the icon will look like when it is drawn.

At the left-hand side of the window is the color selector control. This control lets you pick one of the 16 standard IIGS 640-mode dithered colors to draw in. The currently selected color is shown at the top of the color selector in the large rectangle. To select a new color to draw in, simply click on one of the smaller color rectangles.

Next to the color selector control is the icon sample display. This display shows you what your icon will look like when it is drawn in any of four different ways. The top sample shows what the icon will look like normally. The second sample shows how the Finder will draw the icon if the object it represents is "off line." (That is, if this icon represents a file, and that file is on a disk which is not in a drive, the icon will look like the second sample.) The third sample shows how the Finder will draw the icon if the object it represents has been "opened." (That is, if this icon represents a folder, and that folder is open, the icon will look like the third sample.) Finally, the last sample shows how the icon will look when it is selected in the Finder.

But that's not all the icon sample display can show you! By default, the icon

sample display shows you what the icon will look like when it is drawn on a standard blue background. However, not everyone uses a standard blue background in the Finder. So, if you want to see how the icon will look on a different colored background, simply click on any of the icon samples and the background of the icon will change to the next of the standard IIGS colors. This can be very handy if you are designing an icon for display against a specific background color, like perhaps an icon that will be displayed on the white background of a window.

At the top of the Icon Editor window, and just to the right of the icon sample display, is a description of how wide and tall the icon is. At first, this will be the same as the values given in the icon list window. However, you can change the size of the icon while you are in the Icon Editor window. If you do, this information will be updated to reflect the new size.

Finally, just to the right of the icon sample display is the actual icon editor control. This control is split into two sections: the image box and the mask box. Inside each of these boxes is shown the actual color information for each pixel that makes up the icon's image and mask. (For more on exactly what the "image" and "mask" are, see the "Understanding IIGS Icons" article elsewhere in this issue.)

Using the icon editor control is very simple. You simply move the mouse over either the image or the mask portion of the control and the cursor will change into a pencil. At this point, you simply click the mouse and you will begin drawing in the currently selected color. (For more on drawing in the mask

portion, see the discussion of the "Color Mask" menu item, below.)

While most of your editing work will be done with the pencil tool, there are four other tools that you can use:

- The Hand Tool - Hold down the shift key while the mouse is over the image or the mask and the cursor will change into a hand. You can then click the mouse and move the icon's image or mask around to rapidly change its position. When you let go of the mouse, the image and the mask will be redrawn at the new location.

- The Eyedropper Tool - If you need to switch drawing colors, but you don't want to go back to the color selector (perhaps you are editing a very large icon), simply hold down the option key while the mouse is over the image or the mask and the cursor will change to an eyedropper. Then, move the eyedropper over the color that you want to switch to and click the mouse button. The eyedropper will "pick up" the color underneath it and that color will then be the current drawing color.

- The Bow Tie Tool - The Bow Tie tool allows you to replace one color with another. For example, if you have an icon with a lot of red in it, and you want to change that red to blue, you can either use the pencil tool to do it one pixel at a time, or you can use the bow tie tool to do it all at once. To use the bow tie tool, first use the color picker or the eyedropper to select the new color that you want to replace the old color (in this example, you would pick blue). Next, hold down the Command key and move the mouse over the image or the mask. The cursor will change to the bow tie cursor, which looks like two triangles pointing at each other. Finally, move the bow tie tool so that a pixel whose color you want to change (in

this case a red pixel) is between the two triangles of the bow tie and then click the mouse button. The bow tie tool will change all of the pixels of the old color into the pixels of the current drawing color. So, in this example, all the red pixels would be changed to blue!

- The Size Box - You can change the size of the icon by using the size box control at the lower right hand corner of the icon image box. Simply click the mouse on the size box and drag it out to the new size that you want the icon to be. As you drag the mouse, a flashing rectangle will follow the mouse to show you the approximate new size of the icon. When the size is what you want, release the mouse and ICE will redraw the icon's image and mask. The image and mask won't be enlarged or shrunk, ICE will merely expand or shrink the boundaries of the icon. So, if you shrink the size of the icon, parts of the image and mask may be clipped off. (Of course, if you make a mistake, you can Undo the size change.) It's also important to note that icons can only be an even number of pixels wide. So don't drive yourself crazy trying to make an icon that has a width of 11! (The height of an icon can be any number.)

Saving Your Icon Changes

You can save the changes you have made in an Icon Editor window in one of two ways.

- Select the Save Icon Changes menu item - When you pick this menu item, ICE immediately copies the changed icon image and mask back to the icon that the frontmost Icon Editor window was created from. (If the original icon is visible behind the Icon Editor window, its appearance won't be updated on screen until you select the window that it is in.)

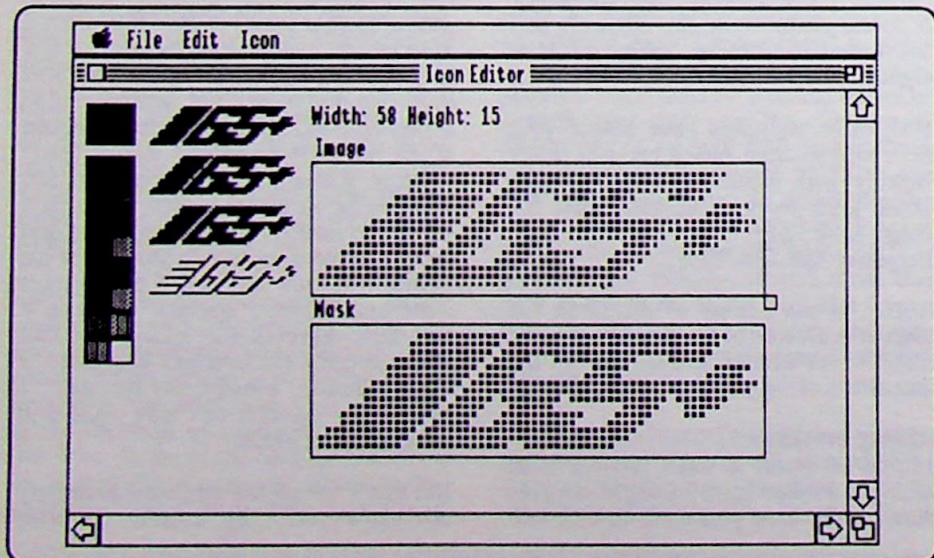
- Simply close the Icon Editor window - When you close an Icon Editor window, ICE checks to see if the image and mask have been changed. If they have, ICE will ask you if you want to save the changes. Click on the Save button or simply press the return key and ICE will save the changes back to the icon you were editing.

The ICE Menu Items

Now that you have an overview of what ICE can do, let's look at each of the items in the ICE menu bar.

The Apple Menu

There is only one ICE-related item in this menu—About ICE. Selecting his item presents you with a dialog containing copyright and version information about ICE. The remaining items in this menu are the new desk accessories (NDAs) that



you have installed in your system. For information on using an NDA, refer to the documentation that came with it.

The File Menu

The ICE File menu contains items that let you create, open and save Finder Icon and rIcon files. You also quit the ICE application using this menu. The items in this menu are:

- **New (Command-N)** - Selecting this item creates a new, empty, Finder Icon list window. You can add icons to this new window using the Paste item from the Edit menu or by using the Add New Icon menu item from the Icon menu. For more on Finder Icon list windows, see the discussion in "The Windows of ICE," above.

- **New rIcons** - Selecting this item creates a new, empty, rIcon list window. You can add icons to this new window using the Paste item from the Edit menu or by using the Add New Icon menu item from the Icon menu. For more on rIcon windows, see the discussion in "The Windows of ICE," above.

- **Open (Command-O)** - Selecting this item will present you with a Standard File dialog that will allow you to select and open either a Finder Icons file or a file that has rIcons in it. The trick, of course, is figuring out which files are Finder Icon files and which are rIcon files. ICE helps with this by displaying each type of file in a very specific manner:

- ◆ **Finder Icon Files** - These are shown with their filename in black. Just like they would be shown in any other Standard File dialog.

- ◆ **rIcon Files** - These are shown with their filename drawn in purple. This allows you to easily distinguish a file containing rIcons from a standard Finder Icon file. (Note that if, by some bizarre circumstance, a Finder Icon file also contains rIcons, ICE will only load the Finder Icon portion of the file.)

You might also notice that some files shown in the Open dialog are "dimmed-out" or unselectable. These are files that are already open and in use by ICE or some other part of the system. If you want to edit the icons in these files, you should first make a copy of the file and then edit the copy.

Important Note: When you select the Open item, you may notice that ICE can take quite a bit of time before it shows you the list of files that you can select from. This is because, to determine

which files contain rIcons, ICE must check *every* file (which has a resource fork) in the current folder. So, if ICE seems to be "stuck" after you pick the Open item, *don't reboot!* Just give it some time to finish going through all of the files in the current folder.

- **Close (Command-W)** - Choosing this menu item will close the front window on the screen. If that window is an ICE window, and you have made changes that have not been saved, ICE will ask you if you want to save those changes to disk before closing the file. ICE will give you three choices in this case:

- ◆ **Don't Save** - By taking this option, you tell ICE to discard the changes you have made and close the window without saving its current contents.

- ◆ **Cancel** - Selecting this option tells ICE that you *don't want* to close the window and that it should leave the window open so that you can continue working with it. If the window was being closed as a result of you selecting the Quit menu item (see below) and you pick the cancel option, the quit operation will be canceled as well.

- ◆ **Save** - Picking this option tells ICE that you want it to save the changes you have made before closing the window. If the window was an Icon Editor window, the icon in the editor's parent icon list window will be updated to reflect the changes you made in the Icon Editor. If the window is an icon list window, ICE reacts based on whether or not the contents of the window had already been saved. If the window has already been saved to a file on disk, ICE simply updates that file. If the window was a new icon list window, ICE behaves as if you had selected the Save As menu item (see below) and prompts you to provide a name for a new file to save the window's contents in.

If the front window was an NDA window, ICE will close it for you. (Most NDA windows will simply disappear when you close their windows. Refer to the documentation for each NDA in your system for details on how it handles being closed.)

- **Save (Command-S)** - When you select this menu item ICE reacts based on whether or not the contents of the front icon list window have already been saved. If the window has already been saved to a file on disk, ICE simply updates that file. If the window is a new icon list window, ICE behaves as if you had selected the Save As menu item (see below) and prompts you to provide a name for a new

file to save the window's contents in. (Note that if the front icon list window does not need to be saved, this item will not be available.)

- **Save As** - Selecting this menu item tells ICE that you want to save the contents of the front icon list window in a new file. ICE will present you with a Standard File dialog that will allow you to specify a new name and location for the file.

If the window you are saving is a Finder Icon list window, you can use the Save As dialog to replace any other file in your system with a new Finder Icons file. (However, it's best to create a new file, unless you are absolutely sure you don't need the file you are replacing.)

If the window you are saving is an rIcon list window, you *must* specify a *new* file to save the rIcons in. *You can not replace a previously existing file with the contents of an rIcon list window.* Why is this? It's because there is no such thing as an "rIcons file." rIcons can only be a *part* of another file. If you try to replace a file with the contents of an rIcon list window, ICE will tell you that you can not do so, and you will be allowed to try again at specifying a new file. When you do, ICE will create a new "development utility" file (file type: \$005E, auxiliary file type: \$0000), and save the rIcons in the resource fork of that file.

- **Save As REZ Source** - If you are a programmer, you will probably want to be able to include some of the icons you create with ICE in your programs. When you select this menu item, ICE will save the icons in the front icon list window as REZ source code in a new file that you specify.

If the front window is a Finder Icon list window, ICE will generate a separate rIcon REZ definition for every icon in the window. These rIcon definitions will be given resource numbers starting with one and increasing sequentially for each icon in the window. Also, a REZ definition will be generated for both the large and small icon in each "icon pair" in the list of icons. So, the first large icon will be defined as rIcon number one and the first small icon will be defined as rIcon number two in the REZ file that ICE creates.

If the front window is an rIcon list window, ICE will generate a separate rIcon REZ definition for every icon in the window and it will use the resource numbers that are specified for the icons in the rIcon list window.

Apple II Software

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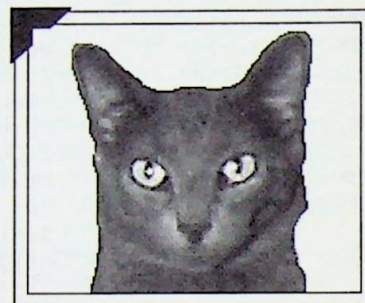
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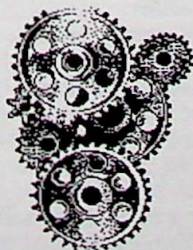
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• **Append To** - If the front window is an rIcon list window, ICE will allow you to append the icons in that window onto a file. When you select this menu item, ICE will first present you with a dialog warning you of the following dangers:

◆ If the file you select for the Append operation does not already have a resource fork, one will be added to it. Adding a resource fork to a file will make it unusable by ProDOS 8 programs.

◆ If the file you select already has rIcons in it, ICE will *replace* any rIcons in the file that have the same resource ID numbers as the rIcons in the list window. For example, if the file you select has an rIcon in it with a resource ID number of one (1) and the rIcon list window has an icon in it with a resource ID number of one, the rIcon in the file will be replaced by the rIcon in the list window.

Because of these two dangers, ICE will also warn you that you should only use the Append menu item to append icons to a backup copy of a file.

If you understand and can accept these warnings, simply click on the "Yes" button in the warning dialog and then ICE will give you a Standard File dialog that you can use to specify which file you want to append the icons to. (Note that when you are selecting a file to append icons to, ICE will not let you select a Finder Icons file.)

• **Quit (Command-Q)** - Selecting this menu item will force ICE to close all of its open windows and return you to the program that you ran ICE from. (For more on how ICE handles closing its windows, see the discussion of the Close menu item, above.)

The Edit Menu

The ICE Edit menu works exactly the way you would hope and expect it to. However, the ICE Edit menu is quite a bit smarter than your average Edit menu. In ICE, the Edit menu responds differently depending on which control in an ICE window is the currently active control. In ICE only three types of controls can be the "currently active" control: icon lists, LineEdit controls and icon editing controls. When an Icon Editing window is the front window, the icon editing control in it will be the active control. When an icon list window is the front window, either of the other two types of controls can be the active control. You can tell when an icon list is active by the fact that it will have a heavy black border around it. You can tell when a LineEdit control is active by the fact that all of the

text in it will be selected or that the flashing insertion point marker will be visible in the control. You can activate one of these two types of controls by either clicking on it with the mouse or by pressing the tab key repeatedly. When you press the tab key, the next control in the window will be activated. When a control is activated, the Edit menu will be updated to reflect the operations that are currently available for that particular control. Now, let's look at each of those menu items and how they work with each type of control.

• **Undo (Command-Z)** - ICE is unique in that each and every control in ICE has its own "Undo buffer." This means that you can make a change to one control, go to another control, make a change, go back to the first control and undo the change that you made to it, then, go back to the second control and undo the change you made there! You can only undo the last change made (i.e. ICE doesn't have "unlimited" undo) but since you can do this for each control, that should be more than enough. (Future versions of ICE may support unlimited undo, if enough people ask for it!) Now, let's look at each type of control and the operations you can undo for them (note that you can also redo the last undone operation by picking the Undo menu item immediately after the last undo):

◆ **Icon lists** - You can undo the last Cut, Paste, Clear and Add New Icon operation.

◆ **Line edits** - You can undo the last Cut, Paste and Clear operation, as well as undoing the last thing you typed.

◆ **Icon editor** - You can undo the last Paste and Clear operation, as well as the last color change operation. You can also undo the last drawing operation, the last resize operation and the last icon repositioning operation (i.e. using the Nudge menu items [see below], or using the hand tool to move the icon image or mask).

• **Cut (Command-X)** - Picking the Cut menu item will remove the currently selected icon or text and place it in the system Clipboard. (You can not use the Cut menu item when the Icon Editor window is in front. Use the Clear item instead.) If you Cut an icon out of an rIcon list window, the icon will be converted to Finder Icon format and placed on the Clipboard. This allows you to paste the rIcon into an icon editor other than ICE. (Cutting an icon of either type will also create a picture scrap that will be placed in the Clipboard. You can then Paste this picture into your favorite paint program.)

• **Copy (Command-C)** - Picking the Copy menu item will place a copy of the currently selected icon or text and place it in the system Clipboard. Copying an icon from an icon list will also create a picture representation of the icon and put it in the Clipboard as well. If you pick the Copy menu item while an Icon Editor window is front, *only* a picture representation of the icon will be placed in the Clipboard. (You can then Paste this picture into your favorite paint program.) If you Copy an icon out of an rIcon list window, the icon will be converted to Finder Icon format before being placed on the Clipboard. This allows you to paste the rIcon into an icon editor other than ICE.

• **Paste (Command-V)** - The Paste menu item allows you to paste information from the system Clipboard into the active control in an ICE window. If the active control is an icon list, you can paste a new icon into the list. If the active control is a line edit control, you can paste text from the Clipboard into the control. If the front window is an Icon Editor window, the active control will be the icon editor and you can paste a picture from the Clipboard into the editor. The picture will be converted into an icon image and mask and you can then edit it just like you would any other icon's image and mask.

The Paste menu item will only be available for a specific type of control if there is information of the correct type in the system Clipboard. For example, if there is no icon information in the Clipboard, the Paste item will not be selectable when an icon list is the active control. To determine what type of information is stored in the Clipboard, see the discussion of the "Show Clipboard" menu item, below.

Also, if you copy an icon from a Finder Icon list window, and you then paste that icon into an rIcon list window, only the large icon will actually be pasted into the rIcon list window. To copy and paste a small icon from a Finder Icon list window to an rIcon list window, see the discussion of the Copy Small Icon menu item, below.

Finally, if there is more than one icon in the Clipboard, ICE will paste all of them into the front icon list window. (For a utility that can put more than one icon in the Clipboard at once, see "Copy Icon" in GS+ V6.N2.)

• **Clear** - The Clear menu item is similar to the Cut menu item except that it does not place the information you are clearing

in the Clipboard. So, if you use the Clear item to remove an icon or a bit of text, it will *not* be placed on the Clipboard. (So, to get that information back, you would have to immediately pick the Undo item.)

If you pick the Clear menu item when an Icon Editor window is front, it will fill the icon image with white and the icon mask with black. (This effectively "clears" the icon out of the editor.)

- **Show Clipboard** - Selecting this item opens a window that will show you the current contents of the system Clipboard. Note however, that while only one type of information will be displayed in this window, there may in fact be several different versions of that information in the Clipboard. (Each of these versions is called a "scrap.")

For example, when you use ICE to copy an icon from an icon list, ICE creates two versions of the information: a copy of the icon and a picture version of the icon image. Each of these versions is useful in different situations. The icon, for instance, can be pasted into an ICE icon list (or into an older icon editor) and the picture could be pasted into the ICE Icon Editor window or your favorite paint program.

In ICE, the best way to tell if the Clipboard contains something you can use is to simply check the Edit menu to see if the Paste menu item is active. If it is, there is information on the Clipboard that you can use in the currently active control. If it isn't active, the Clipboard doesn't currently contain any information that can be used by the currently active control.

(Finally, I should also note that, normally, only three types of information will be shown by the Show Clipboard menu item: text, pictures and sounds. If you want to be able to view other types of information that are on the Clipboard, you should check out the Scrapie program from GS+ V6.N1.)

The Icon Menu

The items in the Icon menu are used to either manipulate the items in an icon list or to make changes to an icon's image and mask in an Icon Editor window. The first two items in this menu are only available when the front window is either a Finder Icon list window or an rIcon list window.

- **Add New Icon (Command-A)** - Selecting this item adds a new icon to the icon list in the front icon list window. If the front window is a Finder Icon list window, both a small and large icon will be added. If the front window is an rIcon

list window, only a large icon will be added. When an icon is added to an rIcon list window, ICE will generate a new and unique resource ID for the new icon.

- **Copy Small Icon** - Normally, when you copy an icon from a Finder Icon window and then paste it into an rIcon list window, only the large icon is actually pasted into the rIcon list window. If you wish to copy and paste the small icon from a particular "pair" of Finder Icons, you should use this menu item instead of the regular Copy menu item. You can then Paste that small icon into a rIcon list window.

The remaining items in this menu are only available when the front window is an Icon Editor window.

- **Save Icon Changes (Command-I)** - Selecting this item will save any changes you have made to an icon's image and mask in an Icon Editor window. This item will not be available if you have not made any changes to the image or mask.

- **200% View** - Selecting this menu item causes the icon editor to display the icon you are editing at twice its normal size. This is the default view for editing icons. If this view is currently selected, it will have a check mark beside it.

- **400% View** - Selecting this menu item causes the icon editor to display the icon you are editing at four times its normal size. (This is called "Fat Bits" editing in some older icon editors.) If this view is currently selected, it will have a check mark beside it.

- **Color Mask** - This menu item lets you tell the ICE icon editor whether or not the icon you are editing should be allowed to have a color mask. The default is to allow color masks for all icons that you edit. If you do not wish the icon you are editing to have a color mask, simply select this menu item. This will remove the check mark from the item and when you close the Icon Editor window, the icon's mask will be converted to black and white. (This conversion will not take place immediately, simply because you might change your mind before closing the window.) If the only colors you use in your mask are black and white, you don't have to bother turning this option off.

- **Copy Image To Mask** - When you select this menu item, ICE clears the mask of the icon you are editing and then copies each pixel in the icon's image to the icon's mask. If the Color Mask menu item is checked, the mask will have the

same colors as the image. If the Color Mask menu item is not checked, all colors in the image will be changed to black when they are copied to the mask.

- **Fill Mask** - When you select this menu item, ICE will look at the icon you are editing and change every pixel in its mask to the currently selected editing color. If the Color Mask menu item is not checked, ICE will use black to fill the mask regardless of which color is selected. (If white is the currently selected editing color, ICE will use white to fill the mask regardless of the Color Mask setting.)

- **Clear Mask** - When you select this menu item, ICE will look at the icon you are editing and change every pixel in its mask to white.

- **Nudge Up** - When you select this menu item, ICE takes the icon you are currently editing and moves its image and its mask up one pixel in the icon editor.

- **Nudge Down** - When you select this menu item, ICE takes the icon you are currently editing and moves its image and its mask down one pixel in the icon editor.

- **Nudge Left** - When you select this menu item, ICE takes the icon you are currently editing and moves its image and its mask one pixel to the left in the icon editor.

- **Nudge Right** - When you select this menu item, ICE takes the icon you are currently editing and moves its image and its mask one pixel to the right in the icon editor.

There You Have It

That's everything you need to know to use ICE. If you need more information on how Finder Icons and rIcons work, be sure to read the article "Understanding IIGS Icons," elsewhere in this issue.

I hope that you enjoy ICE and that you find it a useful addition to your library of IIGS utilities. ICE took a while to write, but I hope you will agree that it was worth the wait. If you find a problem with ICE, or if you have any ideas for enhancements to ICE, be sure to let me know!

GS+

Table 1 - File Type and Auxiliary File Type Designations

Note that file types with no auxiliary type represent "generic" file types.

File	Aux.	Description	File	Aux.	Description	File	Aux.	Description
\$00		Unknown	\$50		Apple IIGS Word Processor	\$5A	\$8009	Point-to-Point preferences
\$01		Bad blocks	\$50	\$5445	Teach document	\$5A	\$800A	ORCA/Disassembler preferences
\$02		Apple /// Pascal code	\$50	\$8001	DeluxeWrite document	\$5A	\$800B	SnowTerm preferences
\$03		Apple /// Pascal text	\$50	\$8003	Personal Journal document	\$5A	\$800C	My Word! preferences
\$04		ASCII text	\$50	\$8010	AppleWorks GS WP Doc	\$5A	\$800D	Chipmunk configuration
\$05		Apple /// Pascal data	\$50	\$8011	Softdisk issue text	\$5A	\$8010	AppleWorks GS configuration
\$06		Binary	\$51		Apple IIGS Spreadsheet	\$5A	\$8011	SDE Shell preferences
\$07		Apple /// Font	\$51	\$8010	AppleWorks GS Spreadsheet	\$5A	\$8012	SDE Editor preferences
\$08		Apple II or /// Graphics	\$52		Apple IIGS Data Base	\$5A	\$8013	SDE system tab ruler
\$08	\$4000	Packed Hi-Res Image	\$52	\$8001	GTv database	\$5A	\$8014	Nexus configuration
\$08	\$4001	Packed Double Hi-Res image	\$52	\$8010	AppleWorks GS Data Base	\$5A	\$8015	DesignMaster preferences
\$08	\$8001	Printographer Packed HGR file	\$52	\$8011	AppleWorks GS DB Template	\$5A	\$801A	MAX/Edit keyboard template
\$08	\$8002	Printographer Packed DHGR file	\$52	\$8013	GSAS database	\$5A	\$801B	MAX/Edit tab ruler set
\$08	\$8003	Softdisk Hi-Res image	\$52	\$8014	GSAS accounting journals	\$5A	\$801C	Platinum Paint preferences
\$08	\$8004	Softdisk Double Hi-Res image	\$52	\$8015	Address Manager document	\$5A	\$801D	Sea Scan 1000 configuration
\$09		Apple /// BASIC program	\$52	\$8016	Address Manager defaults	\$5A	\$801E	Allison preferences
\$0A		Apple /// BASIC data	\$52	\$8017	Address Manager Index	\$5A	\$801F	Gold of the Americas options
\$0B		Apple /// Word Processor	\$52	\$801A	Addressed For Success List	\$5A	\$8021	GSAS accounting setup
\$0B	\$8001	Write This Way document	\$53		Drawing	\$5A	\$8023	UtilityLaunch preferences
\$0B	\$8002	Writing & Publishing document	\$53	\$8002	Graphic Disk Labeler document	\$5A	\$8024	SoftDisk configuration
\$0C		Apple /// SOS System	\$54	\$8010	AppleWorks GS Graphics	\$5A	\$8025	Quit-To configuration
\$0F		Folder	\$54	\$8002	Desktop Publishing	\$5A	\$8026	Big Edit Thing preferences
\$10		Apple /// RPS data	\$54	\$8003	GraphicWriter document	\$5A	\$8027	ZMaker preferences
\$11		Apple /// RPS index	\$54	\$8004	Label It document	\$5A	\$8028	Minstrel configuration
\$12		Apple /// AppleFile discard	\$54	\$8004	Addressed For Success Layout	\$5A	\$8029	WordWorks Pro preferences
\$13		Apple /// AppleFile model	\$54	\$8010	AppleWorks GS Page Layout	\$5A	\$802B	Pointless preferences
\$14		Apple /// AppleFile report format	\$54	\$\$\$DD3E	Medley document	\$5A	\$802E	Label It configuration
\$15		Apple /// screen library	\$55		Hypermedia	\$5A	\$802F	Cool Cursor document
\$16		PFS document	\$55	\$0001	HyperCard IIGS stack	\$5A	\$8030	Locator preferences
\$16	\$0001	PFS:File document	\$55	\$8001	Tutor-Tech document	\$5A	\$8031	Replicator preferences
\$16	\$0002	PFS:Write document	\$55	\$8002	HyperStudio document	\$5A	\$8035	Home Refinancer preferences
\$16	\$0003	PFS:Graph document	\$55	\$8003	Nexus document	\$5A	\$803D	Quick DA configuration
\$16	\$0004	PFS:Plan document	\$55	\$8004	HyperSoft stack	\$5A	\$8046	AutoPilot configuration
\$16	\$0016	PFS internal data	\$55	\$8005	HyperSoft card	\$5A	\$8047	EGOed preferences
\$19		AppleWorks Data Base	\$56	\$8006	HyperSoft external command	\$5A	\$8049	Quick DA preferences
\$1A		AppleWorks Word Processor	\$56	\$8001	Educational Data	\$5A	\$804D	HardPressed compression profile
\$1B		AppleWorks Spreadsheet	\$56	\$8007	Tutor-Tech Scores	\$5A	\$8054	Battery Brain preferences
\$20		Desktop Manager document	\$56	\$8007	GradeBook Data	\$5A	\$8055	Rainbow configuration
\$2A		Apple II Source Code	\$57		Stationery	\$5A	\$8061	TypeSet™ preferences
\$2B		Apple II Object Code	\$57	\$8003	Music Writer format	\$5A	\$8063	Cool Cursor preferences
\$2B	\$8001	GBBS Pro object code	\$58	\$8002	Help File	\$5A	\$806E	Balloon™ preferences
\$2C		Apple II Interpreted Code	\$58	\$8006	Davex 8 Help File	\$5A	\$80FE	Special Edition configuration
\$2C	\$8003	APEX program file	\$58	\$8007	Locator help document	\$5A	\$80FF	Sun Dial preferences
\$2D		Apple II Language Data	\$58	\$8007	Personal Journal document	\$5B		Animation file
\$2E		ProDOS 8 code module	\$59	\$8008	Home Refinancer help	\$5B	\$8001	Cartooners movie
\$2E	\$8001	Davex 8 Command	\$59	\$8010	Communications File	\$5B	\$8002	Cartooners actors
\$2E	\$8002	Point-to-Point drivers	\$59		AppleWorks GS Communications	\$5B	\$8005	Arcade King Super document
\$2E	\$8003	Point-to-Point code	\$5A		Communications Configuration file	\$5B	\$8006	Arcade King DHRG document
\$40		Dictionary file	\$5A	\$0000	Sound settings files	\$5B	\$8007	DreamVision movie
\$41		OCR data	\$5A	\$0002	Battery RAM configuration	\$5C		Multimedia document
\$41	\$8001	InWords OCR font table	\$5A	\$0003	AutoLaunch preferences	\$5C	\$8001	GTv multimedia playlist
\$42		File Type Names	\$5A	\$0005	GSBug configuration	\$5D		Game Entertainment document
\$43		Peripheral data	\$5A	\$8001	Master Tracks Jr. preferences	\$5D	\$8001	Solitaire Royale document
\$44		Personal information	\$5A	\$8002	GraphicWriter preferences	\$5D	\$8002	BattleFront scenario
\$44	\$8003	II Notes document	\$5A	\$8003	Z-Link configuration	\$5D	\$8003	BattleFront saved game
\$44	\$80FF	What To Do data	\$5A	\$8004	JumpStart configuration	\$5D	\$8004	Gold of the Americas game
\$44	\$BEEF	Table Scraps Scrapbook	\$5A	\$8005	Davex 8 configuration	\$5D	\$8006	Blackjack Tutor document
\$46	\$8001	AutoSave profiles	\$5A	\$8006	Nifty List configuration	\$5D	\$8010	Quizzical high scores
			\$5A	\$8007	GTv videodisc configuration			
			\$5A	\$8008	GTv Workshop configuration			

Table 1 - File Type and Auxiliary File Type Designations

Note that file types with no auxiliary type represent "generic" file types.

File	Aux.	Description	File	Aux.	Description	File	Aux.	Description
\$5D	\$8011	Meltdown high scores	\$C0	\$0000	Paintworks Packed picture	\$D8	\$0004	MIDI Synth wave data
\$5D	\$8012	BlockWords high scores	\$C0	\$0001	Packed Super Hi-Res Image	\$D8	\$8001	HyperStudio sound
\$5D	\$8025	KaBlooie high scores	\$C0	\$0002	Apple Preferred Format picture	\$D8	\$8002	Arcade King Super sound
\$5E		Development utility document				\$D8	\$8003	SoundOff! sound bank
\$5E	\$0001	Resource	\$C0	\$0003	Packed QuickDraw II PICT file	\$DB		DB Master document
\$5E	\$8001	ORCA/Disassembler template	\$C0	\$8001	GTv background image	\$DB	\$0001	DB Master document
\$5E	\$8003	DesignMaster document	\$C0	\$8005	DreamGrafix document	\$E0		Archival library
\$5F		Financial document	\$C0	\$8006	GIF document	\$E0	\$0000	ALU library
\$5F	\$8002	Home Refinancer document	\$C1		Super Hi-Res picture	\$E0	\$0001	AppleSingle File
\$6B		PC Transporter BIOS	\$C1	\$0000	Super Hi-Res Screen image	\$E0	\$0002	AppleDouble Header File
\$6D		PC Transporter driver	\$C1	\$0001	QuickDraw II PICT file	\$E0	\$0003	AppleDouble Data File
\$6E		PC Transporter pre-boot	\$C1	\$0002	Super Hi-Res 3200 color screen image	\$E0	\$0005	DiskCopy disk image
\$6F		PC Transporter volume				\$E0	\$8000	Binary II File
\$A0		WordPerfect document	\$C1	\$8001	Allison raw image document	\$E0	\$8001	AppleLink ACU document
\$AB		Apple IIGS BASIC program	\$C1	\$8002	ThunderScan image document	\$E0	\$8002	ShrinkIt (NuFX) document
\$AC		Apple IIGS BASIC TDF				\$E0	\$8004	Davex archived volume
\$AD		Apple IIGS BASIC data	\$C1	\$8003	DreamGrafix document	\$E0	\$8006	EZ Backup Saveset document
\$B0		Apple IIGS source code	\$C2		Paintworks animation	\$E0	\$8007	ELS DOS 3.3 volume
\$B0	\$0001	APW Text file	\$C3		Paintworks palette	\$E0	\$8009	UtilityWorks document
\$B0	\$0003	APW 65816 Assembly source code	\$C5		Object-oriented graphics	\$E0	\$800A	Replicator document
			\$C5	\$8000	Draw Plus document	\$E0	\$800B	AutoArk archive
\$B0	\$0005	ORCA/Pascal source code	\$C5	\$C000	Design Your Own Home: Architecture document	\$E0	\$800F	HardPressed archive
\$B0	\$0006	APW command file				\$E2		AppleTalk data
\$B0	\$0008	ORCA/C source code	\$C5	\$C001	Design Your Own Home: predrawn objects	\$E2	\$FFFF	EasyMount document
\$B0	\$0009	APW Linker command file				\$EE		EDASM 816 relocatable file
\$B0	\$000A	APW C source code	\$C5	\$C002	Design Your Own Home: custom objects	\$EF		Pascal area
\$B0	\$000C	ORCA/Desktop command file				\$F0		BASIC command
\$B0	\$0015	APW Rez source file	\$C5	\$C003	Design Your Own Home: clipboard	\$F1		User #1
\$B0	\$0017	Installer script				\$F2		User #2
\$B0	\$001E	TML Pascal source code	\$C5	\$C006	Design Your Own Home: Landscape document	\$F3		User #3
\$B0	\$0116	ORCA/Disassembler script				\$F4		User #4
\$B0	\$0503	SDE Assembler source code	\$C5	\$C007	PyWare document	\$F5		User #5
\$B0	\$0506	SDE command script	\$C6		Script	\$F6		User #6
\$B0	\$0601	Nifty List data	\$C7		Control Panel document	\$F7		User #7
\$B0	\$0719	PostScript file	\$C8		Font	\$F8		User #8
\$B1		Apple IIGS object code	\$C8	\$0000	Font (Standard IIGS QuickDraw II Font)	\$F9		GS/OS System file
\$B2		Apple IIGS Library code				\$FA		Integer BASIC program
\$B3		GS/OS application	\$C8	\$0001	TrueType font	\$FB		Integer BASIC variables
\$B4		GS/OS Run-Time Library	\$C9		Finder data	\$FC		AppleSoft BASIC program
\$B5		GS/OS Shell application	\$CA		Finder Icons	\$FD		AppleSoft BASIC variables
\$B6		Permanent initialization file	\$D5		Music sequence	\$FE		Relocatable code
\$B7		Temporary initialization file	\$D5	\$0000	Music Construction Set song	\$FF		ProDOS 8 system application
\$B8		New desk accessory	\$D5	\$0001	MIDI Synth instrument	\$FFF1		SCSI Partition
\$B9		Classic desk accessory	\$D5	\$0007	SoundSmith document	\$FFF2		CD-ROM Partition
\$BA		Tool	\$D5	\$8002	Diversi-Tune sequence	\$FFF3		Hard drive partition
\$BB		Apple IIGS Device Driver file	\$D5	\$8003	Master Tracks Jr. sequence	\$FFF4		Network Generic
\$BB	\$7F01	GTv videodisc serial driver	\$D5	\$8005	Arcade King Super music Instrument	\$FFF5		File server
\$BB	\$7F02	GTv videodisc game port driver	\$D6			\$FFF6		Generic SCSI
\$BC		Load file (generic)	\$D6	\$0000	Music Construction Set instrument	\$FFF7		Tape Drive
\$BC	\$4001	Nifty List Module				\$FFF8		CD-ROM disc
\$BC	\$4002	Super Info module	\$D6	\$0001	MIDI Synth instrument	\$FFF9		5.25-inch disk drive
\$BC	\$4004	Twilight document	\$D6	\$0002	Diversi-Tune instrument	\$FFFA		RAM disk
\$BC	\$4007	HyperStudio New Button Action	\$D7		MIDI data	\$FFFB		3.5-inch disk
\$BC	\$4008	HyperStudio Screen Transition	\$D7	\$0000	MIDI standard data	\$FFFC		5.25-inch disk
\$BC	\$4009	DreamGrafix module	\$D8		Sampled sound	\$FFFD		Hard Disk
\$BC	\$400A	HyperStudio Extra utility	\$D8	\$0000	Audio IFF document	\$FFFE		Full Trash Can
\$BD		GS/OS File System Translator	\$D8	\$0001	AIFF-C document	\$FFFF		Empty Trash Can
\$BF		GS/OS document	\$D8	\$0002	ASIF document			
\$C0		Packed Super Hi-Res picture	\$D8	\$0003	Sound resource file			

Note that "file types" of \$FFF1 through \$FFFF are device type indicators that are used only by the Finder. They are not legal file type values. Every effort has been made to ensure the accuracy of this listing. However, if you find a mistake or you know of a file type and auxiliary file type combination that is not given in this list, let us know!

It's In Tomorrow's Mail!

GNO/ME - \$89

GNO/ME stands for the "GNO Multitasking Environment." GNO/ME is a command shell that brings multitasking to your IIGS. Using GNO/ME, you can start up multiple tasks (like compiling different parts of a program) and have them execute concurrently! GNO/ME can also be used as a replacement for the ORCA command shell and is compatible with all of the ORCA utilities and languages.

System requirements: System 6.0 or later, 2MB of RAM and a hard drive. (More RAM is strongly recommended for multitasking!) Price includes First Class shipping to U.S. Surface mail shipping to the rest of the world is an additional \$5. Air Mail shipping to the rest of the world is \$10.

Switch-It! - \$39.95

Switch-It! is a program switcher and launcher that allows you to have more than one IIGS application in memory at the same time.

You can switch between these applications instantly, just by picking the application you want to work with from the menu bar at the top of the screen! Switch-It! also comes with several new desk accessories (NDAs), that allow you to easily copy data from one application that you have in memory, and then paste it into another application.

System requirements: System 6.0 or later, 2MB of RAM and a hard drive. Price includes First Class shipping to U.S., Canada, Mexico, and surface mail to rest of the world. Air Mail shipping is an additional \$4.

Splat! - \$39.95

Splat! is a *source level* debugger for use with ORCA/C, ORCA/Modula-2, and ORCA/Pascal. With Splat! installed, you can step or trace through your program's source code while your program executes! You can also view and set the values of variables and you can even view complex data structures, like Event records, and watch their contents change as your program executes! If you program the IIGS, you need Splat!

System requirements: System 6.0 or later, 2MB of RAM, a hard drive and either ORCA/C, ORCA/Modula-2 or ORCA/Pascal. Price includes First Class shipping to U.S., Canada, Mexico, and surface mail to rest of the world. Air Mail shipping is an additional \$4.

Pick 'n' Pile - \$20

Pick 'n' Pile is a great game for your IIGS that would probably remind you of Tetris, if Tetris had walls, flowerpots, wildfires, bombs, and death heads! In Pick 'n' Pile, your job is to clear the screen of various colored balls, by stacking them on top of each other. As you try to accomplish this task, some helpful items appear to make your job easier (like the bombs), and other items appear to make your job more difficult (like the death heads). It's extremely addictive, and a lot of fun!

System requirements: System 5.0.4 or later, 1MB of RAM. Price includes First Class shipping to U.S., Canada, Mexico, and surface mail to rest of the world. Air Mail shipping is an additional \$3.

ZipGS Accelerator - \$189

Are you tired of waiting on your IIGS? Well then, plug in a ZipGS accelerator card and get ready to blow the doors off of your favorite programs! With a ZipGS 8/16 accelerator installed, your IIGS will run at a snappy 8MHz instead of the wimpy 2.6MHz it's running at now. The Finder will run faster, AppleWorks GS will run faster, EGOed will run faster, in fact, just about *everything* that you do with your Apple IIGS will happen faster!

And the ZipGS is simple to install! All you have to do is remove the CPU chip, plug the ZipGS into the CPU socket, plug the ZipGS circuit board into either slot 3 or 4 and then you are ready start computing at ludicrous speed!

System requirements: A ROM 01 or ROM 03 Apple IIGS and a burning desire to go faster!
Price includes First Class shipping to U.S., Canada, Mexico, and surface mail to rest of the world.
Air Mail shipping is an additional \$5.

Addressed For Success - \$35

Addressed For Success is the *only* IIGS-specific label design and printing application available! With it, you can quickly and easily create and print labels on any IIGS-compatible printer, using any font that you have. Addressed For Success comes with dozens of pre-made label templates for use with Avery brand labels, or you can easily design your own templates for use with other brands of labels. Addressed For Success also performs bulk sortations for reduced postage costs, prints postal bar codes, and allows you to include up to three different graphics on each label!

System requirements: System 6.0 or later, 2MB of RAM and a hard drive. Price includes First Class shipping to U.S., Canada, Mexico, and surface mail to rest of the world. Air Mail shipping is an additional \$3.

The Very Fine Print

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GS+ Back Issue Information

May-Jun 1990 (V1.N5)

- Only 10 copies left!
- AppleFest Report
- Beginner's Guide to System Disks - Part 1
- 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
- Reviews: ZipGSX, LightningScan, Design Your Own Home, Print Shop Companion IIGS, Your IIGS Guide, Dragon Wars, 2088: The Crylan 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
- 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. **Needs 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.**
- 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
- Reviews: ContactsGS, GSymbolic, Kangaroo, ORCA/Debugger, UltraCat, Storybook Weaver, World of Make-Believe

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.**
- 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 V4.N2 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 - Change the colors of your Finder device icons
- 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 EGOed
- GS+ program updates: Rainbow v1.0.1, NoDOS v1.8
- Reviews: Salvation—Deliverance, DreamGraphics, The Manager, The Passport House Letter, The Lost Tribe, DuelTris

May-Jun 1993 (V4.N5)

See the Back issue Spotlight on your GS+ Disk!

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 "An application can't be found for this document" dialog by connecting documents to an application
- GS+ program updates: AutoSave v2.0, EGOed lite v1.0.1, Extra Bits v1.0.1
- Reviews: Castle Metacrus, HardPressed, The Lost Treasures of Inflocom, 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
- 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 scavenges files off CD-ROMs
- KaBlooi! A IIGS version of the game Minesweeper
- 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

Mar-Apr 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 - Now you can read Macintosh resources!
- Reviews - Addressed for Success, ORCA/Debugger vs. Splatt!, ORCA/Modula-2

May-Jun 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: Backup v2.0, Spectrum

Jul-Aug 1994 (V5.N6)

- Programming the IIGS - Part 3: GSOS 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 Tries

Sep-Oct 1994 (V6.N1)

- Halloween Fun With Your IIGS
- All About IIGS Graphic Formats
- Find Original - Easily locate the files your Finder aliases point to
- Table Scraps - The best IIGS scrapbook program yet
- Reviews: DiscQuest Encyclopedia, Quick Click Calc

Nov-Dec 1994 (V6.N2)

- Programming the IIGS - Part 4: Program Building Blocks
- Everything you need to know about buying a laser printer
- Working With the Toolbox - Part 14: The TextEdit Tool Set
- Copy Icon - Copies icons from the Finder desktop
- Elucidation - Edits Finder File Type Descriptor files
- Geeker - Edits the Finder's "geek" preferences
- Ultimater I - An Ultima I game and character editor
- Reviews: AUG CD #1, The SimpleScript Workbook, Ultima I - The First Age of Darkness

Jan-Feb 1995 (V6.N3)

- How to shop for a modem
- All about Nifty List
- Working With the Toolbox - Part 15: The Print Manager
- The GS+ XCMD for Spectrum v2.0
- EliefFont - View any font, just by double-clicking on it!
- GS+ program updates: Cool Cursor v2.0.2, AnnaMatrix v1.1
- The GS+ FAQ File
- Reviews: Financial Genius, GS Invaders, Stalacities, Switch-It!

Mar-Apr 1995 (V6.N4)

- How to buy a CD-ROM drive for your IIGS
- Programming the IIGS - Part 5: TaskMaster
- Special Edition - Alerts you to changes in edition files
- GS+ Magazine Policies or "Where's my magazine?"
- GS+ program updates: II Notes v2.0, Finder Binder v1.0.1
- More of the GS+ FAQ File
- Reviews: Contacts GS v2.0, FAXination

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The Beginner's Guide to Archives

By Josef W. Wankerl

Since we released Balloon™ v2.0, the number one question we get asked (after "Why doesn't it extract disk images?") is "Why doesn't Balloon extract files from <insert non-ShrinkIt archive format> archives?" Well, to ease my mind, and to provide some informative comments on the world of archives in general, I'll answer this question and many more in this article.

Different Strokes

There are a bunch of distinct mainstream operating systems in the microcomputer world today: GS/OS (and I'll include ProDOS in here too), Mac OS, UNIX, and MS-DOS just to name a few. With all these different operating systems, different approaches are taken for archiving files. MS-DOS is a very simplistic operating system, and as such, writing an archival program for MS-DOS is fairly easy. Since it's easy, quite a few people have decided to try, which has resulted in a myriad of archive formats for MS-DOS. Mac OS and GS/OS are a bit trickier for archive programmers, so only a few standards have evolved. Specifically, for GS/OS, there is only *one* standard: The NuFX (ShrinkIt) archive format.

The Same But Yet . . . Different

All archive formats strive for a common goal: To group multiple files together into one file (which is called an "archive") and to reduce the size of that archive file as much as possible using compression technology. To this end, each standard uses a different compression method (or even multiple methods) and also stores information in the archive file differently.

Now, getting back to Balloon for a minute . . . Balloon is a new desk accessory that sits around in memory until you ask it to do some work. Because Balloon is intended only to be used by IIGS owners, it is tailored to work specifically with ShrinkIt archives. If Balloon had the capability to handle other archive formats, all the program code to recognize and display and handle those different archive formats would be sitting around in memory, too. Balloon is already big enough as it is (taking up about 100K in memory) and adding in specialty code to handle other archives would push Balloon's size well over the size a desk accessory should probably be. (Actually, there is no limit to the size of a desk accessory, but the smaller they are the better, and I can make a great case that Balloon's 100K size is already way too big!)

Balloon started out to be just a neat and simple way to double-click on a ShrinkIt archive in the Finder and not have to wait for ShrinkIt to load and do its job. Of course, as programs often do, Balloon grew and matured into the great desk accessory that we have today. However, all throughout its growth period, the one thing that has remained constant in Balloon is that it *only* handles ShrinkIt archives. I mean, as a IIGS user, that's the most common archive format you have to deal with, right?

Well Yes, But . . .

OK, even though ShrinkIt files are the most common ones you'll have to deal with, a healthy minority of the time you'll be dealing with a foreign (i.e. not a IIGS-specific) archive format. As Balloon wasn't designed to handle this, you'll have to find another program to do the work. How are you supposed to deal with these foreign archives? That's the question that I'll try to answer in the rest of this article.

Filename Extensions

As I said before, one of the main reasons archives are used is to group a bunch of files together into a single file for transmission to an online service. The compression features most archive formats support lessen the time spent online, and hence, lessen the amount of money you'll spend uploading or downloading files. Most online services only allow you to find files by their name, and as such, filename extensions are added to the archive's name to show you what kind of

information is contained in the file. Filename extensions appear at the end of the filename, are usually three characters long (but they don't have to be), and are prefixed by a period. For example, the filename **ReadMe.TXT** has an extension of "TXT" which indicates that the file is most likely a normal text file.

The IIGS

When you go online looking for IIGS files these days, you'll mostly find ShrinkIt archives. ShrinkIt archives have an extension of "SHK". Sometimes you'll find a self-extracting ShrinkIt archive with an extension of "SEA". These files are actually application programs which, when run on your IIGS, extract whatever's inside them. The benefit of self-extracting archives is that you don't need an archive program to get to the contents of the archive. The drawback is that self-extracting archives are slightly larger to accommodate the code necessary to extract files from the archive. An important point here is that the "SEA" extension is not unique to the IIGS. Macintosh self-extracting archives use the same extension. In other words, the "SEA" extension tells you that an archive is self-extracting, but it doesn't tell you which computer that the archive will extract on. So, you need to be a bit more careful with these if you're not absolutely certain what computer it's designed to extract on.

If you dig back far enough before ShrinkIt existed, you'll find some Apple II archive formats nobody uses anymore. The first

Table 1 — Archive Extensions and Their Extractors

Extension	Native Operating System	IIGS Extraction Program (See Table 2)
.ACU	ProDOS 8	GS-ShrinkIt
.ARC	MS-DOS	GS-ShrinkIt
.ARJ	MS-DOS	Unarj
.BNY	ProDOS 8 and GS/OS	GS-ShrinkIt
.BQY	ProDOS 8 and GS/OS	GS-ShrinkIt
.BSE	GS/OS	Balloon or GS-ShrinkIt (self-extracting archive)
.BXY	ProDOS 8 and GS/OS	Balloon or GS-ShrinkIt
.CPT	Mac OS	none
.LHA	MS-DOS	LHExtractor
.LZA	MS-DOS	LHExtractor
.LZH	MS-DOS	LHExtractor
.PAK	Mac OS	none
.QQ	ProDOS 8 and GS/OS	GS-ShrinkIt
.SEA	various	Just run it on appropriate operating system
.SHK	GS/OS	Balloon or GS-ShrinkIt
.SIT	Mac OS	GS-ShrinkIt
.tar	Unix	none
.z	Unix	GS-ShrinkIt
.ZIP	MS-DOS	PMPUnzip
.ZOO	MS-DOS	GS-ShrinkIt

format is called ACU for "AppleLink Conversion Utility," which was used in the early days of AppleLink—Personal Edition, which later turned into America Online. Surprisingly enough, the filename extension for an ACU file is "ACU". The second format is called Binary II, which wasn't designed to be an archive format, but it can be used for one. A Binary II file has an extension of "BNY" and it's pronounced "bunny." The last format is a "squeezed" (compressed) file with an extension of "QQ". A Binary II "archive" containing files compressed by the squeeze compression algorithm have an extension of "BQY". Luckily, all of these older archives can be handled by GS-ShrinkIt, your one-stop archive program!

Binary II is used to encapsulate files during file transfers, and as such, you'll see a lot of Binary II files on online services, especially on GENie. Binary II is more of a "file wrapper" than it is an archive format. It's used to transmit the attributes of a file as well as the file contents during a file transfer. Without the Binary II wrapper, no file attributes would be sent, and when you received this attribute-less file, you wouldn't be able to tell if it was a text file or a program file or *any* kind of file, for that matter. If Binary II is used to encapsulate *one* file, then that's an acceptable use. However, if Binary II is used to encapsulate *multiple* files, then that's considered bad taste in today's world. (There are some exceptions to this rule, but in general, it's bad taste.) Since Binary II can be used to encapsulate other types of archive files, different filename extensions have evolved to show you exactly what's what. A "BXY" extension, pronounced "boxy," is a ShrinkIt archive inside a Binary II wrapper. A "BSE" extension is a self-extracting ShrinkIt archive inside a Binary II wrapper.

Macintosh

On the Macintosh, there are two main compression programs in use today: StuffIt and Compact Pro. StuffIt archives are identified by the "SIT" filename extension. You can use GS-ShrinkIt to get at the contents of most StuffIt files.

(If there are folders inside a StuffIt archive, GS-ShrinkIt can't get at what's inside them, though.) As far as I know, there is no IIGS program that can extract the contents of Compact Pro archives, which are designated by the "CPT" extension. Another archive program on the Macintosh is called PackIt, with an extension of "PAK", however it's definitely nowhere near as popular as StuffIt or Compact Pro. I don't know of any PackIt archive extractors for the IIGS, either.

UNIX

Among UNIX computer systems, you'll find two programs which work together to provide archival services. The first program is called "tar," which is short for "tape archive." This program takes a bunch of files and puts them together into an archive, but doesn't do any compression. You are then supposed to take that file and write it out to tape for backup purposes. The second program is called "compress," which compresses a file to make it smaller. First using tar and then using compress will give the same effect of a compressing archival program other systems have. (UNIX prefers small specific-purpose programs used one after another instead of large monolithic programs which do everything under the Sun [pun intended]). Files run through the tar program are given extensions of "tar" and files run through the compress program are given extensions of "z". Files run through both end up with "tar.z" extensions. GS-ShrinkIt will handle compressed files, but it will not handle files run through tar.

MS-DOS

There are more MS-DOS archive programs than you can shake a stick at. Of those, a different one seems to be in popularity every other week. The grandfather of them all, though, is ARC, and archives created with ARC end up with a (surprise) "ARC" extension. GS-ShrinkIt can extract files from a good portion of ARC archives, however not all compression types are supported. Another archiver is called ZOO, which creates archives with the "ZOO" extension. GS-ShrinkIt can also extract files from ZOO archives.

I've now gone over every single archive format that GS-ShrinkIt can handle. From here on out (my momma told me), you're going to have to shop around. (By the way, a lot of these archive formats, especially ARC, are popular not only with IBM clones, but also Amiga and Atari-ST people. Of course, the Amiga and Atari-ST operating systems *are* based on MS-DOS...)

The other MS-DOS archive formats that are currently extractable on your IIGS are ZIP, ARJ, LZH, LZA, and LHA archives. As with all the other MS-DOS archives, the filename extensions are the same three characters as the archive type (i.e. a ZIP archive has an extension of "ZIP", etc.). For ZIP archives, you can use the PMPUnzip shareware program to get at the files inside. (PMPUnzip is \$15 shareware, and you can download it from the A2 file library on GENie. The file number is 21048.) For LZH, LZA, and LHA archives, you can use the LHExtractor freeware program to get at the contents of those archives. (LHExtractor is file number 17839 in the A2 file library on GENie.) For ARJ archives, you can use the Unarj program (file number 17259 on GENie). Unfortunately, Unarj is *not* a desktop program, but is a shell utility. You need a program that will let you specify arguments on a command line to use Unarj. (The ORCA/Shell, GNO shell, Merlin, or ProSel-16 should do the trick.)

The Professor and Mary Ann

The rest (ha ha) of the archive file formats you run across are probably going to present you with some real trouble unless you have access to a computer which is native to that archive file format. (Or, if you're a programmer, you can try and find the file specifications for the archive and write your own unarchiver. Good luck!)

What to do Next

Once you've found some archive files and extracted the files from them, you'll then have to figure out what to do with the resultant files. If they are text files, you'll just need a good text editor to view them. (Of course, since end-of-line characters differ between computer systems, you may get some strange stuff in those files.) If they are program files, you'll have to ignore them unless they're for your II. If they're any other type of file, you'll need some kind of conversion program to make them usable on your IIGS. For a better description of what to do with foreign files, see "The Scavenger" article in V4.N5 of *GS+* Magazine. Happy unarchiving!
GS+

Table 2 — Where to Find Extractor Applications

Program	File Number in GENie A2 File Library
GS-ShrinkIt	19517
LHExtractor	17839
PMPUnzip	21048
Unarj	17259

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We are moving to a new location on May 16th, 1995, so we apologize for the number change. KansasFest and PowerGS are not affiliated with Resource Central, ICON, or any of its associates in any way.

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Rumors, Wishes & Blatant Lies

By Prof. G.S. Gumby

Not This Again!

Rumors are flying again that someone inside Apple Computer, Inc. is working on a IIGS emulator for the PowerMac. This rumor has been given a boost by another rumor that several former Apple II engineers are actually *in charge* of the development of the new Macintosh operating system, which is code-named "Copeland." (Anybody remember what the IIGS's code-name was? It was "Courtland.")

Actually, this isn't too far-fetched a rumor. The PowerPC chip is very good at emulating things (as the first PowerMacs prove), and with all the attention that Windows 95 is getting from the press, Apple could use a good gimmick to set the new MacOS apart. Hopefully, Apple will think that giving people instant access to 10,000 "new" Apple II programs on the Mac would be a pretty good gimmick!

System 6.0.2.1.0?

Along the same lines, a group of programmers has announced that they have reverse-engineered all of the the source code for IIGS System Software v6.0.1 and they are in the process of "fixing" all the bugs in it.

Of course, once they have it fixed, the trick will be distributing it. Even though Apple turned their backs on the IIGS market long ago, they still have a *lot* of litigation-happy suits that haven't really had anybody to sue since they lost the Microsoft case. They *could* be looking for someone to squash, just to make themselves feel good again...

Space to Change

In yet more System Software altering news, another programmer tells me that he's very close to fixing the bug that keeps the IIGS's High Sierra CD-ROM FST from recognizing ISO 9660 CD-ROMs with spaces in their names. This programmer, however, is working with Apple to provide an "official" solution. That's the good news. The bad news is that he's working with Apple to provide an "official" solution.

Not This Again!

Yet another rumor making a comeback this time around is the idea that someone out there has a "Über-Transporter" in the works for the IIGS. This Über-Transporter is basically a PC Transporter on steroids and crack. In other words, it's a 486 PC clone on a card that plugs

into one of your IIGS slots. Not only would this puppy run Windows, it would also run DOOM and all those other great games that you can get at your local Wal-Mart.

This rumor is even *more* likely to be true than the PowerMac emulator because the technology to build a PC clone is older than any current Macintosh model you can name. This means that the technology is well understood and, best of all, cheap. So, what's holding it up? We'll some versions of this rumor maintain that the Über-Transporter is just waiting for Second Sight card to ship so that VGA support can be added...

March What?

OK, you aren't going to believe this, but the folks at Sequential System tell me that the Second Sight card *will* be shipping by the time you get this. (Isn't it cool how these rumors flow one to the other?)

Of course, we've heard that one before haven't we? Which reminds me, the boss wanted me to tell you that AutoArk will be shipping any day now. Really! (Come on! Give me a break, I have to write this or he'll fire me!)

Product Line Expanding?

Speaking of AutoArk (yeah, right!), the boss also tells me that we may soon be adding even more top-notch IIGS products to our fabulous mail-order product line. Who's products? Sorry, but I can't tell you that information just yet...

Save the Trees?

Recently there have been lots of complaints on the Internet about how Apple II magazines are getting smaller and smaller. Hmm, we've been at the same size for almost five years now, *Shareware Solutions II* has actually gotten larger, and *Softdisk G-S* doesn't actually have any pages... So who are they talking about?

Turn the Page Please

Wait! Don't turn the page! I just couldn't think of a better title for this bit!

Anyway, if this isn't your first issue of *GS+* Magazine, you might have noticed that the paper used in this issue is a little different. Hopefully, it's *better*. Why the change? Well believe it or not, our printer raised prices on us again! Fortunately this time it was a very small

increase. And, as part of the deal, *GS+* Magazine now gets printed on a much better stock of paper!

GENie In a Net

Well, after months of false starts and delays, GENie has finally brought its Internet access features online. If you have a GENie account, you can now do such cool stuff as telnet to other systems and cruise the World Wide Web. (Move to GENie page 5000 to check out these new features.) One of my personal favorite things to do is call GENie and then telnet over to Delphi.com and check my mail there. Unfortunately, there are a few features of the GENie system that aren't implemented yet. But, GENie promises that they'll have them up and running real soon now. (Speaking of Delphi, if you've got a Delphi account, you've probably been telnetting and web-sliding for a *long* time now.)

Of course, the best thing about both the GENie and Delphi Internet access systems is that you don't need a Mac or a PC to take advantage of them. (All you need is telcom software that can do VT100 terminal emulation.) Which brings us right back to that persistent rumor that somebody out there is working on a graphical Web browser for the IIGS...

Me Say UG!

A couple of issue's ago, someone wrote to ask us why we hadn't been putting flyers in those mailings that Apple's User Group Connection does. Well, this letter got the attention of a couple of our advertisers, so they looked into it. The bottom line is, if you belong to one of the 700 or so user groups that Apple lists as "Apple II only," don't just chuck the next few mailings you get from the User Group Connection!

Rehashed Junk From WarpField

WarpField Engineering recently sent us a prototype of a new IIGS peripheral. It's called the "Voyager," and as I reported in a previous issue, it's supposed to be a portable hard drive. Unfortunately, the read/write heads on the Voyager never seem to actually go anywhere. They just stay in one place while the disk platter spins underneath them. A very disappointing peripheral. (It seemed to have such promise when they first announced it.) At any rate, WarpField says that they are working on the problem and that they should have a fix available about a year after the product ships. **GS+**

How to Use Your GS+ Disk

The first thing you need to do is **make a backup copy of your GS+ Disk with the Finder!!!** Do *not* make your backup on your hard disk! Instead, copy the GS+ Disk to another 3.5-inch disk (this is *very* important). Next, put the original in a safe place. If you are having a problem making a backup copy, give us a call at (615) 332-2087. If your disk is damaged, let us know, and we'll get a new one to you as soon as possible.

Before you attempt to use your backup GS+ Disk, please take a few minutes to read the **a.Read.Me** file on it 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 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 and Rainbow] 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.

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 all of these instructions carefully before removing *any* files.

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

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

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

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

If you have a ROM 01 IIGS, you may delete the file:

***:System:System.Setup:TS3 (42K)**

If you have a ROM 03 IIGS, you may delete the following file:

***:System:System.Setup:TS2 (37K)**

If you do *not* have a 5.25-inch drive, you may delete the following 8K file:

***:System:Drivers:AppleDisk5.25**

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

***:System:CDevs:Printer (5K)**

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

***:System:Desk.Accs:ControlPanel**

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

What is EGOed lite?

EGOed lite is a new desk accessory (NDA) text editor that we provide in each issue of GS+ Magazine.

When you install EGOed lite on your startup disk, you can use it to edit and print ASCII text, Teach, AppleWorks Classic and AppleWorks GS word processor files from inside any desktop program that properly supports NDAs.

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

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

If you want to save even *more* space, you might want to consider using Autopilot (from GS+ V4.N1) as a replacement program launcher. With Autopilot installed on the minimal System 6.0.1 boot disk, initial free space goes up from 26K to 163K! You can then use Autopilot to autolaunch the Finder from a second 3.5-inch disk drive and still have plenty of room on your boot disk for lots of system extensions. For more information on Autopilot, refer to the "Autopilot v2.0" article in GS+ V4.N1 or give us a call.

Self-Extracting Archive

We use GS-ShrinkIt v1.1 to compress the source code and related files on the GS+ Disk into a *self-extracting archive*. To extract the files from the archive, simply double-click on the GSP.V6.N5.SEA program on your backup GS+ Disk. **You do not need to have a copy GS-ShrinkIt in order to use any of the programs or other materials on this GS+ Disk!**

DISKLESS?

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

GS+ V6.N5 Disk Offer
P. O. Box 15366
Chattanooga, TN 37415-0366

Or call us at 1-800-662-3634, Monday through Friday between 9 a.m. and 5 p.m. Eastern Time, to bill it to your MasterCard or VISA.

Tennessee residents please remember to add 7.75% sales tax.

Price includes First-Class delivery to the U.S., air mail to Canada and Mexico, or surface mail to all other countries. Add an extra \$3 (\$9.50 total) for air mail to all other foreign countries.

IMPORTANT!

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

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 seven 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 try to read this file before using the GS+ Disk.

Documentation

This folder contains the EGOed lite and II Notes documentation files. These are Teach files which can be read using Teach, EGOed lite, or any other TextEdit-based editor.

GSP.V6.N5.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 and the OOPLib (both of which are needed to compile the ICE source code). Our feedback form, a

troubleshooting guide, and a problem form are also in the archive.

The feedback form is a plain ASCII text file. Fill it out and send it in to 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! These are Teach files, you may use EGOed lite or the Teach application to view them.

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 a single 800K disk!

Icons

This folder contains Finder icons used by the various programs on the GS+ Disk. This folder also contains the **FType.GSPlus** file type descriptors which contain all the file type assignments for the programs that have been published in GS+ Magazine.

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, ICE, II Notes, and Rainbow programs. Use the Installer provided on your backup GS+ Disk to automate the installation of these files. EGOed lite and Rainbow require 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.

That's all for this issue's disk. As you can tell, this disk is jam-packed! So we had to remove some of the things that we would normally put on the disk. Specifically, the Miscellaneous Library technical documentation and the user documentation for our Make utility are not on this disk. However, neither of these have changed from the last issue, so if you have that disk, you can get those files from it. **GS+**

How to Get System 6.0.1

Everyone should have a copy of System 6.0.1. Fortunately, we have a license to distribute it to our magazine-and-disk subscribers as a part of their subscription. Unfortunately, we can't afford to mail all five of the disks that System 6.0.1 takes up to every magazine-and-disk subscriber. However, we still want to make it easy for you to get System 6.0.1. So, if you are a subscriber to GS+ Magazine with the companion GS+ Disk (sorry, but we can *not* distribute System 6.0.1 to our magazine-only subscribers), send us the following items and we will send you System 6.0.1:

1) Five (5) *blank and formatted*, 3.5-inch diskettes to our P. O. Box address (which is shown on the back of your magazine). We are asking for "blank and formatted" disks because formatting takes time that we don't have, and it's a great way to tell if a disk is good before you send it to us. *If you send us a bad disk, we aren't going to replace it.*

2) A *self-addressed* return disk mailer with enough postage on it to mail the

five disks back to you. (Foreign subscribers without access to United States postage may include four 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.

The Byte Works. You won't have to bug them, they have it in stock, and ready to ship. The item number is "APDA-47" and the price is \$24.95. To order, give the Byte Works a call at (505) 898-8183.

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 at 2400bps.

Important Note! Before you get System 6.0.1, you should make sure that you have the appropriate hardware to run it. To run System 6.0.1, you will need at least 2MB of RAM and a ROM 01 or ROM 03 IIGS. A hard drive is also *very strongly* recommended! **GS+**

Reviews

Animasia 3-D

By Michael Lutynski

Price: \$99

Requires System Software v6.0.1, 2MB of RAM and at least one 3.5-inch drive. An accelerator card is recommended. Full installation on a hard drive requires 2.3MB of disk space.

Animasia
3324 Vishaal Dr.
Orlando, FL 32817
407-380-9932
Internet: Animasia@genie.geis.com

Reviewed by Steven W. Disbrow

If you've been involved with your Apple IIGS for more than a year or so, you've probably heard stories about a program called "Animasia 3-D." In fact, over the last few years, Animasia 3-D had become something of a legend in the IIGS community. Everyone that saw early versions of the program was impressed, but the program was always "just about ready to ship," without actually shipping.

Well, after several long years of development, Animasia 3-D has gone from being VaporWare to being a real application. A really *good* application! In fact Animasia 3-D may actually be good enough that it will keep a lot of folks from selling their IIGS! But wait, let me back up and actually tell you about this amazing little program . . .

Nice Name. What Does It Mean?

Animasia 3-D is an application that allows you to define two- and three-dimensional objects, and then animate those objects inside a "World" window on the screen. After you have your animation completed, Animasia 3-D can play it back to the screen for you, or it can save it out to disk as a standard PaintWorks animation file. You can then replay this file using Animasia 3-D or any other program that can play PaintWorks animations. (HyperStudio and Twilight II come to mind as programs that can make particularly good use of these animations.)

This sounds great, but how do you actually *use* Animasia 3-D to do something like this? Well, to answer that question, you have to understand that Animasia 3-D actually lets you work in *four* dimensions, not just three. The fourth dimension is, of course, *time*. Animations are created by moving two- and three-dimensional objects (circles, cubes, spheres, etc.) to different

positions in space at different points in time. So, instead of just allowing you to say, "I want this square to move from point A to point B." Animasia 3-D allows you to say, "At time 0:00, I want the square to be *here* and at time 2:00, I want the square to be *over there*." So, let's assume that you want to animate a square moving from the left side of the screen to the right. With Animasia 3-D, making this happen would be as simple as:

1) Create a new document and, using the square tool, draw a square on the left side of the screen. Note that, since you've just created this document, the time will be at zero seconds.

2) Use the Set Time menu item to reset the time to, say, two seconds in the future. Then (simply by clicking and dragging) move the rectangle to the right side of the screen.

3) That's it! Now all you have to do is use one of Animasia's animate commands to replay the animation for you. When you do, Animasia 3-D will automatically figure out all of the "in-between" positions of the square that will get it from the left hand side of the screen (at time 0:00) to the right hand side of the screen (at time 2:00). (The process of figuring out "in-between" frames is called "tweening.")

In this simple example, we've only changed one attribute of our sample object: Its position in space. Animasia 3-D also lets you change other object attributes as well. For example you could have the square become larger or smaller as it traveled across the screen. You could also change its color as it moves, or you could

have it tumble end over end as it moves through space.

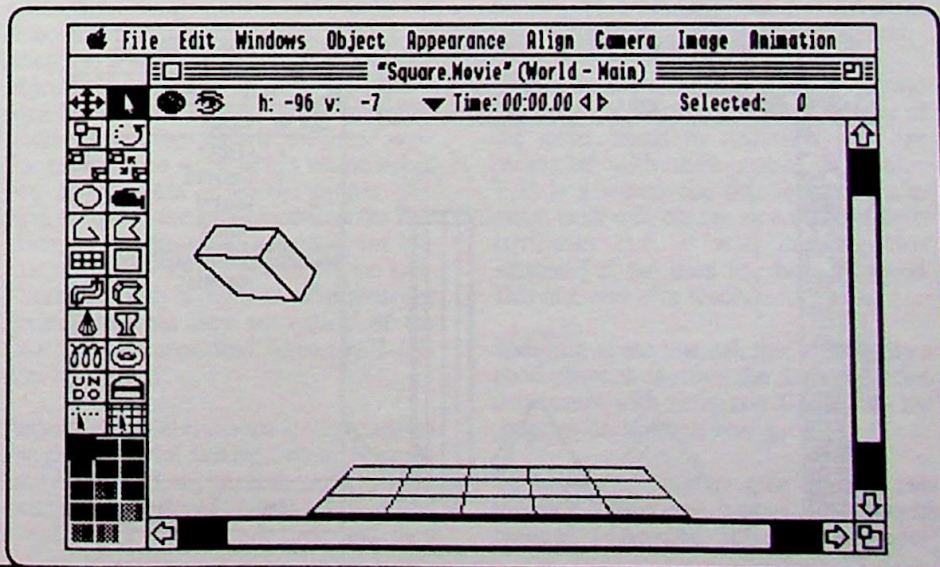
So, now that we have a broad overview of what Animasia 3-D can do, let's look more closely at it.

Objects, Objects, Objects

Probably the most important concept in Animasia 3-D is that of the "object." Objects are the things that you animate, and they can be one of three types: Cameras, lights, and models.

Cameras are, as you might expect, objects that you look through to see the other objects that populate the world you are working in. Animasia 3-D has several pre-defined and pre-positioned cameras, but you can also create new cameras if you wish, and you can change the position of any camera to give you a different perspective on your work. In fact, by moving cameras, you can create animations that appear as if the viewer is flying in and around the objects that populate the world!

Lights are, well, *lights*. You use them to illuminate the objects that you create in your world. Animasia 3-D light objects can shed light in any of the 16 standard dithered colors that are supported under the IIGS 640-mode desktop, and they can be any one of several types: ambient, directional, radiant or spotlight. Each of these types of lights does pretty much exactly what its name suggests it will do (i.e. ambient lights light up *everything*, and spotlights give you a "cone" of light), and, as with cameras, you can add as many of them as your heart desires. You can also animate lights just like any other object in Animasia 3-D.



That brings us to the most complex type of object supported by Animasia 3-D, the *model*. Models are anything that you can draw with Animasia 3-D's built-in drawing tools. So, for example, a model object can be a square, a cube, a circle, a sphere, a triangle, a pyramid, a vase, a donut, or even a snake-like tube with red and green patches on it.

Creating model objects is fairly straightforward—you simply pick one of Animasia 3-D's drawing tools (like the square tool), and you draw the object on the screen. Of course, the tools provided only let you start out with basic two-dimensional objects (i.e. there is no cube tool), so you have to use another of Animasia 3-D's tools to enhance the two-dimensional objects that you create. So, for example, to create a cube, you first create a square, then you select it, and you click on the extrude tool. This takes the square and projects it (i.e. extrudes it) into three dimensions to create a cube. Other simple three-dimensional objects are created in much the same way.

If you need a more complex three-dimensional object, you'll have to do a tiny bit more work. Fortunately, there are other tools built into Animasia 3-D to make the creation of more complex objects fairly easy. For example:

- The lathe tool lets you turn a shape about an imaginary axis that you specify by selecting two points. This creates a three-dimensional object that looks like it was turned on a wood-crafter's lathe.
- The cone tool lets you add a cone on top of a surface. So, for example, to create a pyramid, you could first create a simple rectangle, and then use the cone tool to project a cone out from the surface of that rectangle.

- The path extrude tool can be used (along with the path definition tool) to take a surface and project it along a path. This creates a solid object whose shape follows that of the path you have specified. For example, you can create a tube or a "snake" simply by creating a circle and then path extruding it along an appropriate path.

By using these tools, and several others, you can massage and manipulate simple two-dimensional objects into extremely complex three-dimensional objects. These objects, no matter how complex they end up, can then be animated.

Chuh, Chuh, Changes

As I mentioned earlier, once you have created an object Animasia 3-D allows you change several different attributes for that object. By changing one or more of these attributes, you can greatly enhance the effect of the animations that you create. For example, an animation of a ball that bounces up and down would be nice, but not very impressive. However, by slightly changing the shape of the ball during the course of the animation (i.e. flatten it as it hits the ground, and elongate it as it reaches the top of its bounce), you can give the animation a much more interesting look. Here again, all you have to do is set the new time and change the shape of the object, Animasia 3-D will take care of the in-between changes in shape that will cause the ball to go from being round to being "squished."

You can also change the color of an object over time. Just set the appropriate time and then pick the new color. Want your object to spin? Again, just set the appropriate time and then use the rotate tool to spin the object to its new orientation. Animasia 3-D takes care of all the actual animation "grunt work."

The Ties That Bind

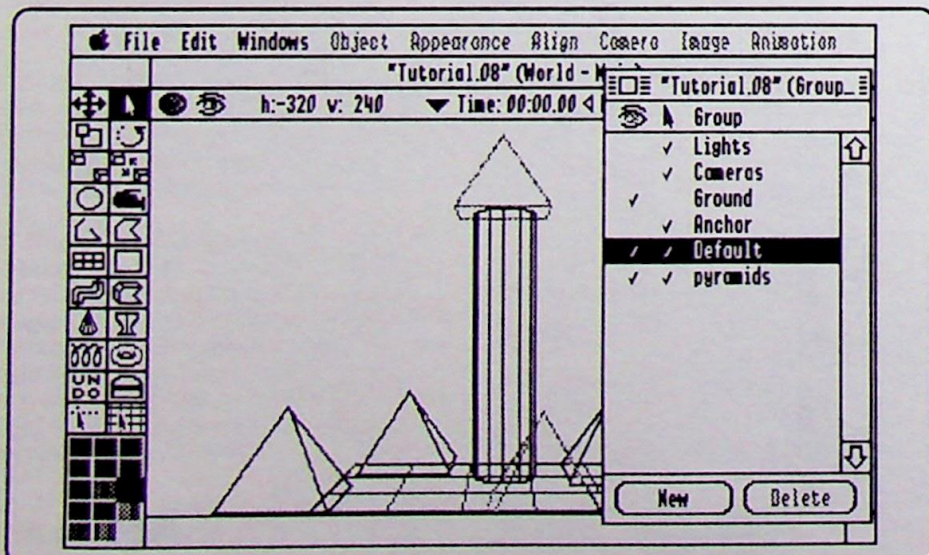
Another neat thing about Animasia 3-D objects is that they can be linked to one another to form even more complex objects! When you link one object to another, one object is the "parent" in the relationship and another is the "child." As in any good parent-child relation, the child object will actually inherit one or more of the parent's attributes. If for example you have a wheel object that spins and moves across the screen, you could create a car object that is linked to that wheel. You could also set things up so that the car inherits the wheel's tendency to move across the screen, while leaving out the wheel's tendency to spin. This will give you a single logical automobile object that moves across the screen, with its wheels turning.

Cameras, Lights & Models! Oh My!

If you use Animasia 3-D to create anything more than a really simple animation, you will soon find that the screen is absolutely littered with objects. So, you might wonder how you can keep track of them all. Fortunately, Animasia 3-D has a simple solution for this quandary as well.

Animasia 3-D allows you to arrange all of your objects into distinct *groups* that you can easily manipulate using the Groups window. (Each world that you create in Animasia 3-D comes with its own Groups window.) When you first create a new world, Animasia 3-D gives that world its own Groups window and creates several default groups for you. For example, all of the cameras in a world are put into the Cameras group, and all of the lights are put into the Lights group. Any new objects you create are put into a special group called the "Default" group. But, since the name "Default" isn't very descriptive, you can define new groups and give them any name you want. (You can also change the name of the default group.) To continue our car example, this would allow you to create a new group (perhaps called "Car Parts") and place all of the objects that make up the car object into that group.

So now the question is, what good are groups? Well, once a group is defined, you can tell Animasia 3-D to do a couple of different things to the objects in that group. You can have all of the objects in a group hidden (great for cleaning up the screen), you can select all of the objects in a group at once, or you can make the objects in a group un-selectable. This last option is particularly valuable if you've got a lot of precisely placed objects in a group and you don't want to accidentally move them.



What Time Is It?

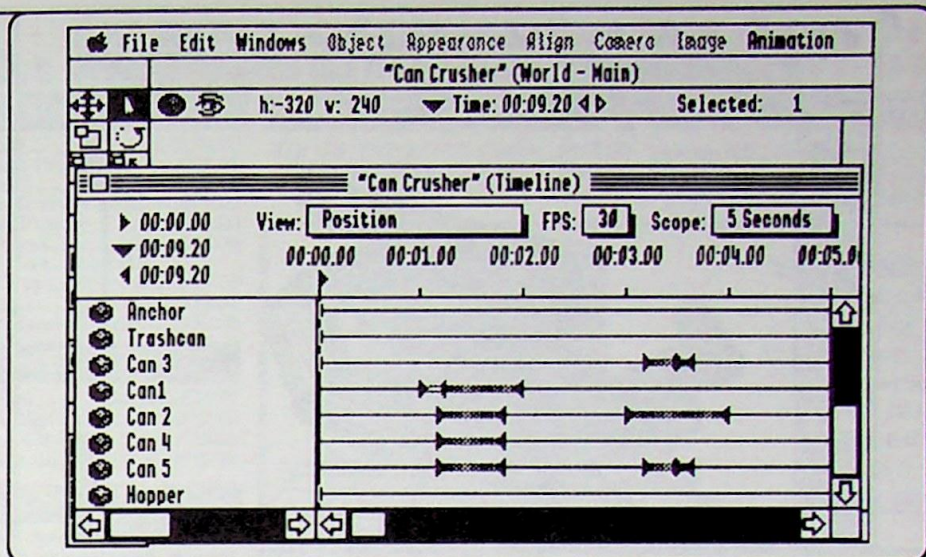
Earlier I said that Animasia 3-D lets you work in the fourth dimension—time. However, this capability goes far beyond the simple premise of “Set the time, move the object.” For each world that you create, Animasia 3-D provides a Timeline window that shows you exactly how the objects in that world behave over time. (The Timeline window also lets you set the starting and ending time of the animation and the number of frames that are generated for each second of time, but it’s main purpose is to show how the attributes of objects change over time.)

Of course, the Timeline window can’t show you the actual behavior of each object (that’s why you animate things in the World window). So, what it does instead is show you *when* an object’s attributes change and for how long.

For example, when you move an object to create an animation (as we did with the square in our first example), a marker representing that motion over time will show up in the Timeline window. This marker appears as a horizontal bar that starts at the time the motion starts and ends at the time the motion ends. Animasia 3-D refers to these markers as “tweens.” So, simply by looking in the Timeline window, you can see exactly when the motion begins and ends for any given object.

Now, you might remember that Animasia 3-D objects have all sorts of attributes that can be changed over time. This unfortunately means that they can’t all be displayed at once in the Timeline window. Instead, you must pick the attribute you want to look at from a pop-up menu. When you make that selection, the Timeline window changes to show you the tweens for that particular attribute for each object in the world. The Timeline window allows you to view tweens for *thirteen* different object attributes. Among these are: Position (where the object is in space), orientation (the direction the object is facing), and size (how large the object is).

So, what good do these tweens do you? Well, besides giving you an immediate overview of the objects in your world, they allow you to change their behavior without having to go back to the World window and handle an object directly. For example, let’s suppose that you have defined an animation that takes two seconds to complete. Now you decide that you need it to take five seconds. You can make this change simply by clicking on the end of the appropriate tween and dragging it out to the five second mark!



Or, let’s imagine that you’ve decided that you don’t want a particular animation anymore. Simply click on the offending tween and then press the delete key! The animation is gone, but the object retains the attributes it would have had at the time the tween would have started.

Is This Great . . . ?

If you can’t tell yet, I think that Animasia 3-D is a very impressive piece of software. But, it’s not just because of what it can do, it’s also because of how it does it.

The interface for Animasia 3-D is just about everything you expect in a well-written IIGS application. How do you think you should move an object? Click and drag? That’s how it works in Animasia 3-D. How do you think you should select two or more objects at once? Click with the shift key down? That’s how it works in Animasia 3-D.

Of course, Animasia 3-D has to go beyond these basic IIGS mechanics to allow you to perform such tasks as selecting individual points on objects or selecting a single surface on a complex object. It does this by defining certain uses for specific modifier keys and then *consistently* using them in the same way. For example, to work with a single point, you *always* hold down the option key. And, to get to the hidden options for any given tool, you *always* hold down the Command key while clicking on the tool. These are fairly simplistic examples I’m giving here, but they are typical of the care that has gone into Animasia 3-D’s user interface.

Animasia 3-D also makes it very easy to use the powerful linking and inheritance features that I mentioned earlier. For example, to link two objects together you simply click on the link tool, and then

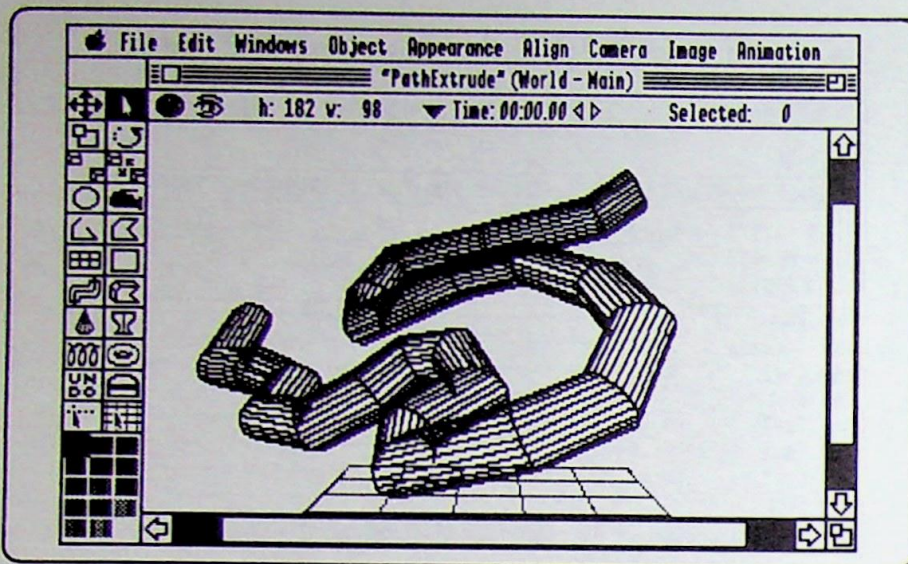
click on the child object and drag to the parent object. That’s all there is to it. To unlink two objects, just select one of them and then click on the unlink tool. Simple, yet very, very powerful stuff.

Another nice thing about the Animasia 3-D user interface is the online help that you will find in the program. In almost every dialog box that Animasia 3-D displays, you’ll find a button labeled “Help.” Simply click on it and you’ll get another dialog giving you a brief explanation of how to use the dialog you are currently working with. And, if you do something wrong in another part of the program, you are likely to see another help dialog telling you why you can’t do that, and how to correct the problem. The only problem with the help that you get is that, for some of the more advanced topics, you need to have the manuals close at hand to figure out exactly what the help text is trying to tell you. (In other words, you have to be somewhat familiar with the program before some of the help text actually becomes helpful.) For the most part, however, the help text is very good.

(There is also another form of subtle “online help” in Animasia 3-D. Many of the menu items in Animasia 3-D are presented with their names in *italics*. This is a visual cue that this particular menu item will change one of an object’s attributes [i.e. it will animate that attribute] if the time has been changed. This is a very nice touch.)

Speaking of the manual, this is probably a good place to say that the documentation that comes with Animasia 3-D is, like the program itself, very, very good.

The documentation is split up over two manuals, a reference manual and a tutorial manual. (Around 300 pages of total



documentation!) The reference manual is exactly that—a reference to every nook and cranny of the Animasia 3-D software. It's a very complete, readable and useful piece of documentation, but, frankly, the tutorial manual is where all the really good stuff is!

The Animasia 3-D tutorial manual leads you through how to use just about every part of the program. It is divided into 12 sections, each covering a different part of the Animasia 3-D software or a concept of the animation process. The different lessons in the manual go along with sample tutorial files that are provided on the Animasia 3-D disk, so you don't have to create anything from scratch, you can just jump right in and begin working through the tutorials.

The tutorials themselves are well-written and easy to follow. It personally took me about five hours of total time to work through all twelve lessons. When I finished, I felt that I had a pretty good understanding of how the software worked and what it was capable of. If you get this program, do yourself a favor and work through all the tutorials. If you are unfamiliar with animation it will really help you to get more out of the program! (In fact, I'd recommend that you work through the tutorials twice, just to make sure you get a good grip on all of the capabilities of the program.)

... Or What?

Alas, although Animasia 3-D might be starting to sound perfect, this just isn't the case. (But, it's pretty dang close!)

Frankly, almost everything that I would consider "wrong" with Animasia 3-D is the fault not of the program, but of the IIGS itself. To sum it up, Animasia 3-D is just too darn slow for casual use.

That's not to say that it's too slow to use, just that unless you have an accelerator in your computer, you are going to be doing a lot of waiting! And, sadly, even with an accelerator installed, if you have a lot of objects in your animation, Animasia 3-D can quickly bog down and become slower than you might like. But, if you keep your animations relatively simple (which actually seems a shame given the power of this software), the speed is quite acceptable.

The only real "problem" I have found in Animasia 3-D is that, occasionally, when you interrupt the process of saving an animation to disk, and the animation you were generating was in 320 mode, the screen will not properly reset to 640 mode. This results in a rather funky looking screen. Fortunately, you can fix this problem simply by clicking on the zoom box of the World window or by using Animasia 3-D's Redraw command.

Nit Picks

I admit it, the speed problem is the only real complaint that I have with Animasia 3-D. However, I've still got some space to fill, and no product gets by me without a couple of nits being picked! So, let's pick at 'em.

The most obvious nit to pick is that, while Animasia 3-D offers a seemingly limitless Undo facility, there is no way to redo something that you have just undone.

Something else missing is the ability to edit the colors that Animasia 3-D displays on the screen. I realize that since it works in 640 mode Animasia 3-D doesn't have much leeway here, but even the ability to select the colors to use when you generate an animation in 320 mode would have been nice.

Speaking of generating animations, when you save an animation to disk there is no way to interrupt the process and resume it later. This, due to the overall lack of speed of the process, can be a real pain. For example, I had a ten second, 30 frame-per-second (which works out to right at 300 frames), animation that I was saving to disk. It took over two hours to complete the process. (Which actually isn't *that* bad for 300 frames, but...) It would have been very nice to be able to pause the process at the end of the work day and then resume it the next morning. As it stands now, you can stop the process, but when you start over, you start back at the beginning!

Animasia 3-D does allow you to work in color, but frankly, color animations just don't come out looking all that great. Again, this is a problem rooted in the limitations of the IIGS graphics hardware, but it's still disappointing. My advice is to stick with grayscale animations, which do look pretty dang cool.

My last nit to pick is that you can't hide specific groups of objects in the Timeline window. I understand that the Timeline window is intended to give you a complete overview of the behavior of all of your objects, but it can get really cluttered in there! Being able to hide groups of objects in the Timeline window would be a big help!

That Line at the Bottom

Even though this is one of the longer reviews I've written, I still haven't touched on everything that this software can do! (For example, it can import DXF format objects created by many IBM PC CAD programs!) Fortunately, this is such a great piece of software that I really shouldn't have to go that far to give you the bottom line on it. That bottom line is this: Animasia 3-D is a great piece of software that was well worth the wait. If you *need* to make object-based animations on your IIGS, you would be a fool to use any other program. However, if you *don't* have a need for a program like this, I would advise you to seriously consider the fact that Animasia 3-D can be very, very slow—especially if you don't have an accelerator card! If you can look past the speed problem however, I think you'll find that this is the best piece of software that's come out for the IIGS in a very long time!

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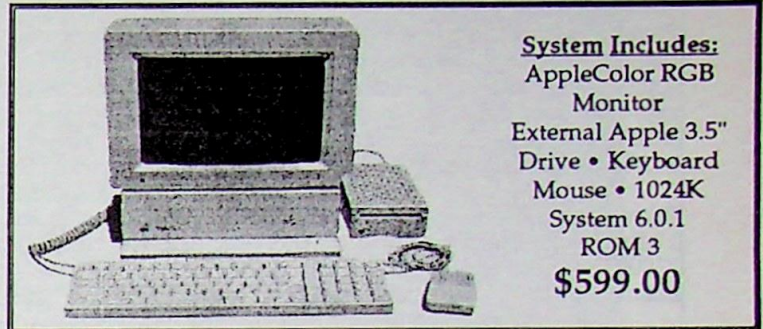
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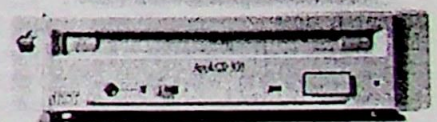
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Blockade & Cogito

IGS versions by Brutal Deluxe

Freeware

Not copy protected

Download time (at 2,400bps):

Blockade - about 1 hour

Cogito - about 45 minutes

Requires System Software 5.0.4 or later.

Installation on a hard disk requires approximately 720K of space for Blockade and 410K for Cogito. In the A2 library on GENie, Blockade is file number 23862 and Cogito is file number 23321.

Brutal Deluxe

11 Rue Emile Fourcand

33000 Bordeaux, France

Internet: zardini@ixl.u-bordeaux.fr

Reviewed by Robert A. Ribaric

A few weeks ago, we received a couple of freeware games in the mail. Freeware? "Whoopie," you say. Well, I'm here to tell you that I wasn't very excited about them either. However, I soon changed my mind. The games in question are Cogito and Blockade from Brutal Deluxe. I tried them both, but I wanted to complete one of them in its entirety. Therefore, let's first look at the one I chose for completion. I selected Blockade. (See first screen shot.) Three weeks and two visits to my shrink later, I finished it!

Keep Your Therapist on Speed-dial

Before you rush off to find this game, I had better warn you—it is *extremely addictive!* Don't think for a moment that you'll be able to just put it on your hard disk for occasional goofing-off. Playing Blockade *will* help you to kill time every now and then, but not always when you have time to spare! This game consists of 80 progressively-harder levels. It tempts you in with a few beginner's boards. You'll think to yourself, "That was easy enough." *That's how they get you!* After these "lessons," you are sucked onto a roller coaster ride of polarizing emotion. You'll experience both frustration and occasional satisfaction. Your head will spin, your thoughts will race, and you might even end up curled in the "fetal-position" on the floor. However, if you stay the course, you might just get to experience the most *anti-climactic* video game conclusion ever! But, more about that later. So, if you've never considered psycho-therapy before, you'd better whip out the yellow pages right now. Trust me on this one. I've been there.

Opening Moments

Blockade has a really interesting opening screen—the first few times you see it! It depicts an office cubicle with something

on the desk. After a few moments, the screen zooms in on the desk to show two monkey faces. I guess that must be the Brutal Deluxe logo. Anyway, although the zoom effect is cool, it gets old after a while. Fortunately, it can be disabled by holding down the option key while loading. Things go much faster after that. You are immediately sent to level one. It should really send you to the instruction screen, but instead you have to pick "help" to get there. This area shows the game's credits alongside the image of a bikini-clad young lady. (This almost makes up for the monkeys!) As you go from screen to screen, you will learn what Blockade is all about.

The Rules

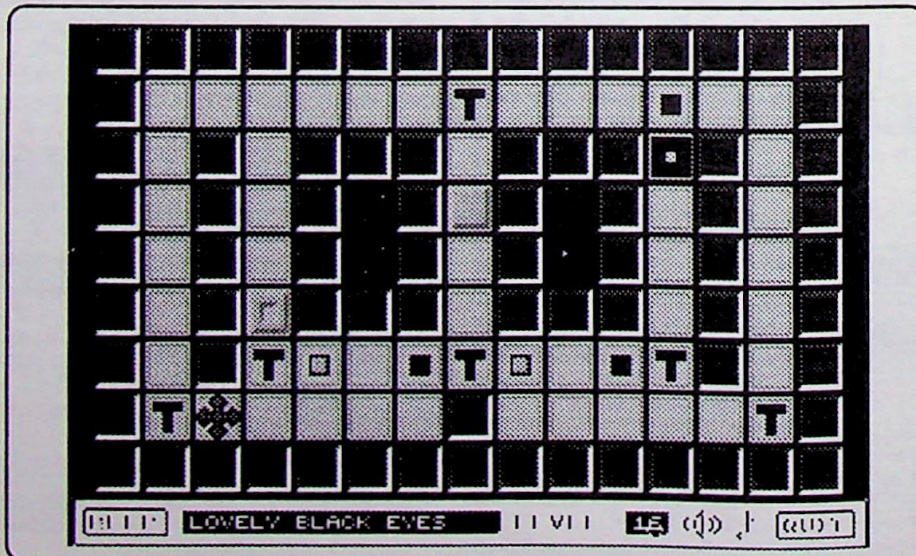
Blockade is a game about pushing things around and making them disappear. You see, there are four different shapes involved: a square with a hole in the middle of it (a frame), a plus, and a diamond. Each of these shapes can come in either blue or yellow. The object of the game is to clear each board by sliding the blocks into each other. This is accomplished using an arrow cursor that is supposed to represent you. And, only equal shapes of opposite color will destroy each other—but it's not even that easy! Two diamonds make a plus, two pluses make a frame, and two frames create a square. The color of the resulting shape is determined by the color of the block that gets one pushed *into* it. For example, if you push a yellow diamond onto a blue diamond, you will get a blue plus as a result. Remember this, because it is very important to pay attention to what color you are going to end up with. Often, you can push two blocks together from either side! Be careful. Only two squares pushed together will actually make both of them disappear completely. To make things worse, your cursor can

only be moved through open space. Pay attention so you don't accidentally wall yourself in. If you trap yourself behind a block, you're stuck! The only choice then will be to restart the level (a nice feature that will be mentioned again later).

Your Tools

To make things even more interesting, many boards contain "devices" that can alter the blocks in some way. These devices are: colorizers, mutators, and teleporters. Three different kinds of colorizers allow you to change the color of a particular shape. A blue one will change your shape to blue, and of course a yellow one will make it yellow. A blue and yellow colorizer flips blocks to whatever color they are *not*. Mutators change the shape of a block in an "upwards" pattern (square to frame to plus to diamond) until they can change no more. You really have to think ahead to use these effectively. Finally, teleporters transport shapes to the next (nearest) free teleporter. If there are multiple open teleporters that are equally-spaced, left will win out over right, and top will be chosen before bottom. Stay alert, though. The devices will not do anything to you (the arrow cursor). For instance, you cannot teleport yourself out of a jam! And, just because a board contains a device, you don't necessarily need to use it. Sometimes, they are only for decoration (or to purposely screw you up).

There are also movable walls. These are not really devices, but they aren't affected by them, either. You see, movable walls are obstructions. They look only slightly different from regular walls, and can be easily overlooked. Sometimes, the only way to clear a board is to get one of these walls out of your way. Use caution, though, because there's often little space in which to maneuver. You can really



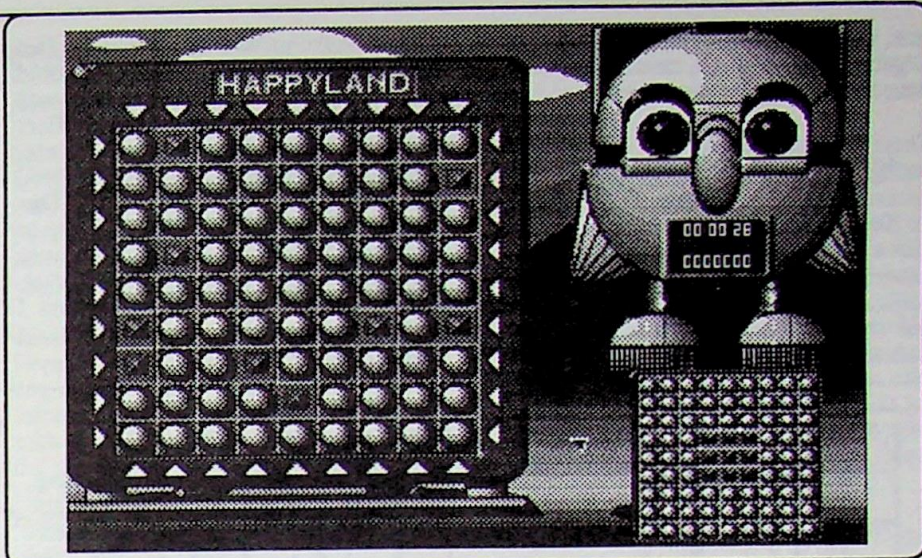
screw yourself up by blocking off where you need to go next. Occasionally, you even need to use these walls to disable a device. Like I said, devices won't do anything to movable walls, but placing a wall on top of a device can really be helpful. Remember how the teleporters choose where to send you? I think you can see how these walls can be used to change that. Just a tip from your Uncle Bob.

The Controls

You can use either the mouse or the keyboard to play. I prefer the keyboard. The music and sound can be toggled on and off, and you can access the help screens from any level. These things are accomplished by clicking on the particular icons, or by hitting the appropriate keystrokes. *Command-M* controls the music (you'll turn that off right away) and *Command-S* does the sound. And, online help is just a mouse-click away. The features that you'll use the most, however, allow you to reset the board or undo your last move. These are *Command-R* and *Command-Z* respectively. You can also specify exactly which level you want to begin on. Finally, you can certainly quit whenever you want. This option isn't all that useful, because more often than not, you'll just hit the power switch in a fit of rage! The other options really do save time, though. If you had to start over on the first level every time you screwed up, you'd go insane!

What I Thought

If you like addictive strategy games, you *must* acquire Blockade. If you are impatient, or borderline psychotic, then you'd better steer away from this game. As I mentioned, I don't usually enjoy this type of game. I'm sick of all those block, shape, and pattern games. I mean, could there be *more* Tetris/Klax/Columns copycats out there?! For me, Blockade is just different enough to make it interesting. I guess it somehow forcibly-annexed my brain (and, anyone who would want to do that *must* be different)! I couldn't stop playing until I got to the end. Speaking of that, as I alluded to earlier, the conclusion of Blockade is extremely disappointing. Well, let me rephrase that. *There is no definite ending!* I think the programmers intended to send you back to level 1 after completing the last level (80). However, some kind of glitch sends you back to level 60 (called "east and west"—more about that in a minute), and calls it level 81. Only by completing that one over again will you be put back at the beginning—and that's silly anyway! I mean, how much more time would it have taken to write some kind of congratulations screen, or to play a special



song? Incidentally, it's not that the normal music is bad—it's just that it never changes. Every level is the same. Think of how much time you're going to spend playing this game. It can really get monotonous! I do admit however, that these are relatively minor complaints.

One neat thing about Blockade is the fact that every board has an original name, like the aforementioned "east and west." They are usually fairly descriptive, and can sometimes even give you a hint on how to complete the level. Some of the more challenging boards by name and number are: "The Spaceship" (37), "Beam me up, Scotty" (53), "Please release me" (55), and just about all of the seventies levels! I *really* got confused on level 79 ("Two-headed worm"). I had to draw a picture to take home with me overnight. Only after staring at it for a while did I come up with a solution. Although many boards can be solved using different methods, this has only one way. I've included the solution at the end of this review if you want to take a look. You should make a note about the "final" board (80—"Turnabout is fair"). *It is a lot easier than it looks!* You really only *need* a single example of each shape with the exception of one of them. Go back and read the paragraph on what order the shapes destroy each other in. Enough said.

By the way, I would like to take this opportunity to mention the people who actually designed the boards. There wasn't enough space for all eight of them at the top of this review, so here they are now in no particular order: Carl Baltrunas, Christopher Kempke, Alan Teague, Andrew Kepert, Mike Ames, Terry Monks, Peter Lewis, and Cai Lewis. Originally, Blockade was written by Christer Ericson for the Macintosh.

Also, if you can't find this game online, and you don't want to write to Europe, I think you can get it from a few people here in the states. Joe Kohn from Shareware Solutions II (166 Alpine St, San Rafael, CA 94901) should be able to hook you up, or you can try downloading it from your favorite online service. (If you have a GEnie account, the appropriate file numbers are given at the beginning of this review.)

Well, you might think that I've given away too much (or simply rambled on too much), but please realize how many levels there are, and how long they'll take to finish if you actually complete them totally in order. Besides, by the time you *do* get close to the end, you'll be in no condition to recall any of what I have just told you. Just remember to keep this review and its tips handy as a reference when you are playing Blockade. It may be the only thing that can keep you from ending up in the funny-farm!

A Word About Cogito

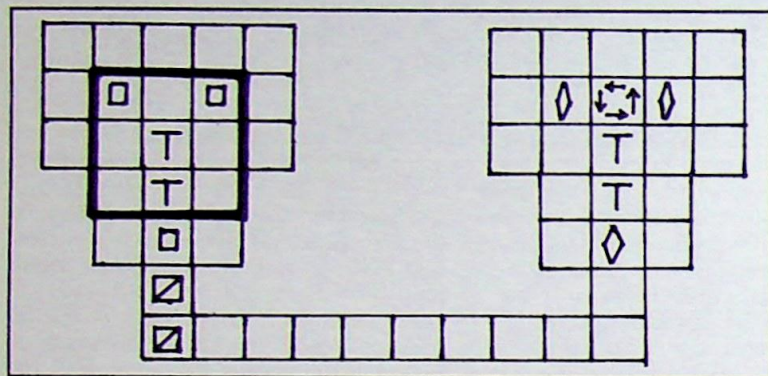
I'd like to say a little bit about the other game we received from Brutal Deluxe—Cogito. (See second screen shot.) Although, I didn't have a lot of time to spend playing Cogito, I think I tried enough of it to fill you in. Cogito is an elaborate "Rubik's Cube" type of game. You start off with a picture that is divided up into a certain number of sections. The computer then scrambles the image and it's up to you to fix it in the same way you would solve a Rubik's Cube. You accomplish this by clicking the mouse arrow on the row or column you want to shift. The resulting movement starts off the way you would expect (one square at a time), but as you progress, things get a little more complicated. Rows and columns start shifting backwards, multiple "clicks" at a

time, or in other somewhat random ways. It gets fairly difficult, and looks even more brain-damaging than Blockade!

There are 120 levels to Cogito. The background to these can be one of four decorative scenes: Happy, Ludy, Planet, or Xeno. Don't ask me where the names came from, but they are somewhat descriptive. Happy contains a smiling robot, Planet shows a space scene, Xeno has an alien, and Ludy is a Lego block pattern. Anyway, the problem with these

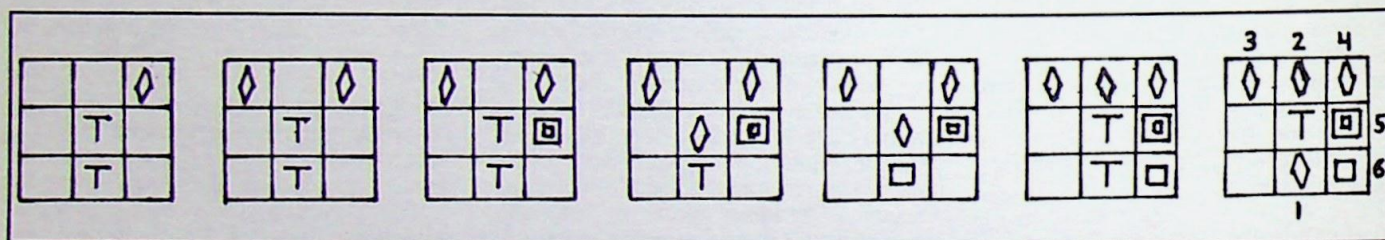
scenes and the game in general is the fact that it is in black and white! It would look better, and be easier to play if it was in color. Other than that, Cogito offers the same control features as Blockade. These toggle the music and sound, as well as setting the level you want to play. One feature unique to Cogito is the ability to save and reload a game in progress. Since you can already set your starting level, I'm not sure how useful this is, but I suppose you can make a lot of progress on a board without finishing it.

Like I said, I really couldn't get into Cogito like I did with Blockade. The time just wasn't there. But, do you want to know a little secret? I think I'm better off this way. Cogito has 40 more levels, gets much more difficult—a lot more quickly, and looks like it could do irreversible damage to my psyche. So, I don't think I'm the one who should be trying to finish this game. However, if you are sadistic enough to want even more after defeating Blockade, you should probably check out Cogito! **GS+**



Help for Level 79 of Blockade

Warning: If you don't want any help on this level, don't read this. Also, don't even try this level until you actually get there! OK, for those of you who are still here, let me say a few words about this solution. I've depicted what the board looks like when you start, so we'll be on the same wavelength. The critical area for solving this is the 3x3 section outlined in bold. I've laid out what you need to do step-by-step to *finish* this board. Of course, there are several things that must be done ahead of time. Since there are a few different ways to set up the final part of this solution, I won't take up space showing them. Besides, if you've gotten this far, I know you can do it!



I

II

III

IV

V

VI

VII

- Using the mutator and teleporters, you must get the proper shapes (shown in drawing number VII) to the left side of the board in the order I've shown in drawings I through VII. There are *no* other configurations that will work—you must get the left side of the board to look like this!
- The last diamond is a little tricky. You must make sure that when you are placing the other shapes, you're left with the remaining diamond covering the top teleporter on the right "head" of the "Two-headed worm." Keep trying until you do it correctly. Remember, you want it to teleport to the bottom left teleporter. *It* wants to go to the closest free teleporter, so by sitting on the top right one, you block it off. The next closest teleporter is the one where you actually want the diamond to end up!
- So now, the final diamond can then be pushed down onto the bottom right teleporter. All of the shapes should then be arranged as in drawing VII.
- Finally, the shapes must be pushed down one-by-one (in the order I've numbered them in drawing VII) through the top and bottom (left side) teleporters, as well as the top and bottom colorizers.
- If you've done everything correctly, all the shapes will disintegrate into the far, bottom-left corner of the board! Even with these instructions, you may still get mixed up. Take heart in the fact that I was eventually able to figure it out on my own so I could give you this help. Although, I would not be surprised at all if someone out there does phone to let me know they solved it on their own in five minutes!

BlueDisk PC-type Floppy Disk Controller

Price: \$139 (Plus \$14 shipping and handling, and a \$12 bank fee if paid by check or money order.)

Requires Apple IIGS or Apple IIe and IBM PC-type floppy or tape drives.

SHH Systeme
Bergstrasse 95
82131 Stockdorf
Germany
Internet: JLange@TASHA.MUC.DE

Reviewed by Erik "Lurch" Kloeppe

When Diz first offered me the opportunity to review this card, I was elated. I have this old IBM 286 computer that I use every day—to hold the TV up high enough so I can see it while I'm working. It's full of cards and drives and . . . dust. And it just sits there taunting me; "You spent money on me!"

Well, this was a perfect chance to get some use from that pile of junk. It has (had, now) a couple of IBM PC-type MFM (Modified Frequency Modulation) floppy drives in it, and I really could use a few more drives on my IIGS, even if they were PC drives! Since the BlueDisk is a PC-type disk controller card for the Apple II, I told Diz "sure," and he sent me the card.

I took one look at the bundle Diz sent me, and felt a thrill of anticipation. This was going to be easy! After all, there was just the BlueDisk card itself, a single 800K floppy, and a 24-page manual (laser-printed pages stapled together).

Well, being a good Apple IIGS geek, I immediately did what we all do with manuals. I set it aside and started plinking with the card itself—that's what this is all about anyway, right? "We Don't Need No Steenkeeng Manual!"

You read it here first, folks. Nowhere else in print will you see this admission: I made a mistake. The BlueDisk card owes more to its association with the PC than just the ability to use PC-type MFM floppy drives. Like just about anything associated with the PC, you need, *really need*, to read the BlueDisk manual. Trust me on this one.

HARDware

There are half a dozen chips, five jumpers, and a four switch (in some cases three switch) DIP (Dual Inline Package) on the BlueDisk card. If you don't know what the jumpers and switches are for and what

position means what, the BlueDisk card will be as useful as just so much fiberglass and silicon.

The DIP switch tells the card what slot it's plugged into. If you set it wrong, not only will the attached floppies not work, your system will crash on bootup. (I got *very* used to hearing my system go <BONK> every time it crashed!)

The jumpers tell the card what kind of floppies you have attached, where they are, and a couple other bits of esoteric information we need not go into here. As with the DIP switches, if you don't have the jumpers set up correctly, not only will the floppies not work, your system will crash.

You also need to know the exact capacities of the floppy drives you are attaching to the BlueDisk. For those of you unfamiliar with PC floppies, they come in a variety of flavors, from the simple 360K 5.25-inch floppy to the 2.88MB 3.5-inch floppy. On a real PC, you can attach two such floppies to a floppy controller, in any combination, if the controller supports the attached drive. The BlueDisk also supports this type of flexible setup. For this reason, SHH Systeme recommends quite strongly that you have the manual handy for your MFM floppy before you try to attach it to the BlueDisk card. Although you can likely tinker a bit to make it work if you are a little familiar with PC floppies, I agree with SHH Systeme that you should have your floppy drive manual close by when you hook it up.

Fortunately, while I don't have the manuals to my floppies anymore, I *do* know a little bit about them, so all was well. I attached the 3.5-inch 1.44MB and the 5.25-inch 1.2MB floppy drives to a

standard PC floppy control cable and attached that to the BlueDisk card. Then I double checked to see that the jumpers were correct.

I got *very used* to hearing that <BONK>.

Order in the Court!

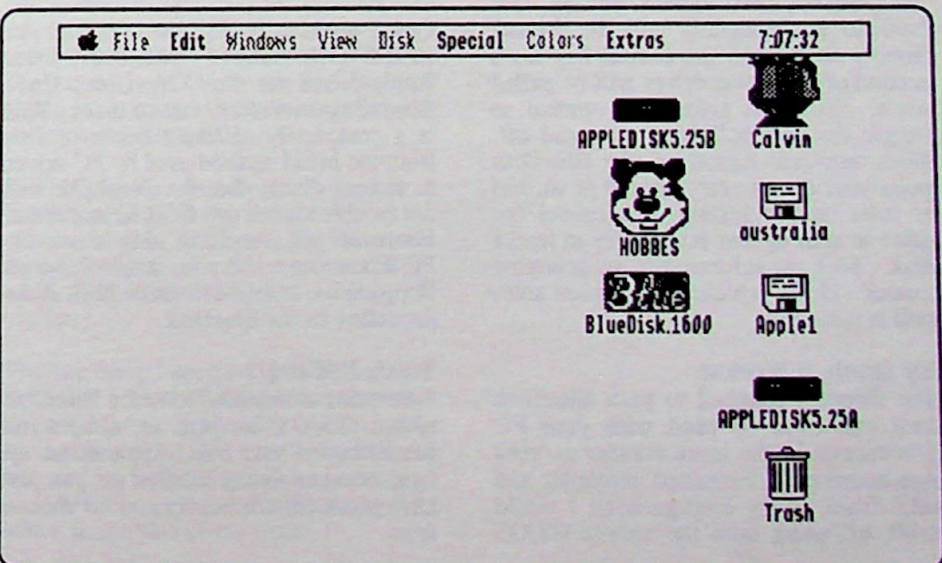
The problem was that, on a PC, the floppy drives are attached to their controller cable in a specific order. What we would call drive one (PC folks call it drive A) is the *last* drive on the cable and drive two (drive B) is the first on the cable. Not so with the BlueDisk card. In this respect, it conforms to the Apple scheme—drive one comes first and drive two comes second. <BONK>

A quick drive swap, and I was off, though there were still some surprises in store.

For one thing, the documentation says the BlueDisk card can be used in any slot. So, I tried it. A flip or two of the DIP switch, and re-install . . . and yup, it seems to work just fine. Only one catch: If I installed the card in slot six or seven, I could not access my Apple 3.5-inch floppy drives attached to slot five!

This was really frustrating, because I had not yet copied the BlueDisk software from its floppy to my hard drive. I started moving the card down the bus, one slot at a time. When I had it installed in slot four, I lost the ability to use my mouse (which is what should happen, since slot four is hard-coded to be the mouse driver) but I got my Apple drives back. I skipped slot three, since I did *not* want to get involved in moving my ZipGS around. I finally settled on slot two, where it currently resides.

Another thing: You must have at least one drive attached to the card and powered



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up or your IIGS won't boot. (OK, there is an exception to this rule. I'll get to it later.)

One last surprise, though it shouldn't have been: You can tell the BlueDisk whether it should poll its drives for new disks automatically, or if it should wait for you to do it manually. A simple press of a couple of keys toggles this selection either way. If I'd read the manual, I'd have known that simply shoving a disk into the drive would not necessarily mean it would show up on the desktop. I recommend that for normal use, you leave the BlueDisk set to manual polling. So, how do you manually poll the drives? Simply hold down the control key for a second or so and the drives will be polled once. You can press shift-control to toggle the auto-poll feature on and off. With auto-poll turned on, the BlueDisk polls your drives every second or so, and at least on my system, this causes the drive to spin up and actually try to read a disk. So I am subjected to an annoying <chick - chick - chick> sound when auto-poll is turned on.

By Gosh, It Works!

The floppies attached to your BlueDisk card can even be used with your PC Transporter in the same manner as your Apple drives. I formatted, wrote to, and read from, every configuration I could think of, using both the simple GS/OS

format dialog, and under the PC Transporter. The 5.25-inch floppy drive does indeed support 360K, 720K and 1.2MB configurations, while the 3.5-inch drive works quite well with 720K, 800K, 1.44MB and 1.6MB configurations. BlueDisk also supports two flavors of the 2.88MB capacity floppy format (2:1 and 3:1 interleave, though the reason for the two interleaves escapes me), but I couldn't come up with any Extra High Density floppy drives or disks in time for this review. Since it handles the other disk capacities easily, I have no reason to doubt its ability in this regard.

Quick warning here: BlueDisk can *not* read or write standard Apple 800K disks. Apple drives use the GCR (Group Code Recording) method to format disks. This is a completely different kettle of fish from the MFM method used by PC drives to format disks. So, the BlueDisk will not be able to read any GCR format disks. However, you should be able to use the PC Transporter and your Apple 3.5-inch floppy drive to read MS-DOS 720K disks formatted on the BlueDisk.

Track Record

Formatting a disk hooked to the BlueDisk under GS/OS is just as simple as formatting on your basic Apple drive. In fact, the same dialog is called up, you just have more formatting options to choose from.

But, I did run into a problem here. Running MS-DOS on a real PC, if I want to waste capacity on a disk, I can. That is, if I want, I can format a High Density (1.44MB) disk to Double Density (720K) capacity. I was categorically unable to do that with the BlueDisk. Apparently, it expects you to make maximum use of your media.

On the flip side, there are some nice things here. When formatting a 5.25-inch disk, I noticed that the interleave figures were very strange: 52:1. A quick look in the manual calmed my frantically beating heart; this is just an indicator to you that you are formatting a 5.25-inch floppy. The interleave is really 2:1 as it should be. (There were no surprises when formatting 3.5-inch floppies—with the exception of the extra capacities that are available!)

Another nice thing is the ability to format a 5.25-inch double density floppy to hold 720K. On MS-DOS machines, you can't do this, and a disk formatted this way by the BlueDisk *won't* be readable on a PC. But, it works just fine on your IIGS. This means you can copy those dratted MS-DOS disks from 3.5-inch floppies to much less expensive 5.25-inch disks and use them instead, freeing up your costly 3.5-inch floppies for really important stuff. (Like that backup copy of Arkanoid.)

You can even format a floppy while you are in non-GS/OS applications, as long as they support formatting floppies. This means you can use the BlueDisk card and PC-type floppies on a IIe running such applications as Copy II+, AppleWorks 4.0, etc.

Of course, GS/OS and the MS-DOS File System Translator (FST) haven't changed. So, you still can not format a MS-DOS disk directly from the desktop. Formatting a disk as MS-DOS requires a PC Transporter, Peter Watson's MS-DOS File Utilities, or some similar utility. Of course, I use MS-DOS disks as little as I can get away with, so an occasional few extra steps to format a disk doesn't bother me at all.

What really tickled me was the simple fact that disks in my PC-type drives appeared on the Finder desktop! I could copy files to and from the disks using the Finder, Peter Watson's utilities, the PC Transporter, Copy II+, or anything I could find on my system. Unfortunately (no fault to SHH Systeme) you still can't use the Finder to write to a MS-DOS disk. But that's why they included Peter Watson's utilities; for those of us who don't own a PC Transporter. (By the way, when you buy the BlueDisk controller from SHH Systeme you automatically become a registered user of Peter Watson's MS-DOS utilities! You don't even have to pay the shareware fee first!)

Inexpensive Backup?

Remember earlier I mentioned an exception to the rule about having a floppy attached to the card and powered up? If you don't have a MFM floppy drive, you can still use the BlueDisk card—to drive a PC-type tape backup unit. If you look in the *Computer Shopper*, you'll find hundreds of these little buggers for sale, all saying "connects to standard floppy controller." I don't know if any currently available IIGS tape backup software will support such a drive (contact SHH Systeme for the latest information on this), but the hardware capability is there.

But What About the Disk?

Speaking of formatting (I was, wasn't I?), one of the items on the disk that SHH sends is a ProDOS 8 application called Blue Formatter. If nothing else is available (say, you want to use the BlueDisk on a IIe) this is a fine way to format floppies. According to the documentation, Blue Formatter wasn't available to the BlueDisk beta testers, and was released "un-tested," but I wasn't able to make it break.

Other items on the disk are the GS/OS driver for the BlueDisk (without this, you won't get all the extra formatting options in the GS/OS formatting window). There is also a Drive Tester application. If you think you have your drive hooked up correctly (and your IIGS doesn't crash), you can run this and find out for sure. Both it and the Blue Formatter are pretty self explanatory, and the documentation files that accompany them are quite clear if you *do* get confused.

Also included on the disk are Peter Watson's MS-DOS File Utilities (so you can write to MS-DOS disks from GS/OS, and do other cool stuff to MS-DOS disks), an icon file, scripts for the Apple IIGS Installer, and a fairly complete extract of messages about the BlueDisk from the GENie message base. If you have questions that aren't answered in the printed documentation odds are darn good that they are answered here.

In the event that you manage to come up with a question or problem that's *not* addressed in the materials provided, the documentation provides four ways to contact SHH Systeme: Via snail mail (see beginning of article), via an account on GENie (J.Lange7), via the internet (jlange@tasha.muc.de), or via telephone (Germany, 89 - 8577040, 19:00 to 23:00 Central European Time [1 P.M. to 5 P.M. Eastern time]). Since Germany was a *very* long distance call the last time I looked, I'd save this last option for extreme emergencies.

Batteries Not Included

Unlike Apple floppies which draw their power from a slot, PC-type floppies must get their power from a separate power supply. In a PC this is not a problem, since the PC has this *huge* power supply inside with lots of plugs hanging off it. Unfortunately, this isn't the case with an Apple II, so you will have to come up with some sort of power supply for the drives you hook up to the BlueDisk. I ended up gutting a broken tape drive to get my power supply.

SHH Systeme also doesn't include a floppy cable with the BlueDisk card. I rather wish they did, but it, like the power supply extension cables you'll likely need, are easily available at any PC retailer.

The one thing I *am* having difficulty with is finding a suitable enclosure for my new floppy drives. Eventually I'll probably spring for a couple small enclosures intended for hard drives and leave the faceplate off, but for now, they're doing fine bolted to the side of my desk.

Would I Change Anything?

While the BlueDisk card seems to be a well-done piece of hardware, there is one thing in particular about it that I would most certainly change. The cable connector for the floppy drives is at the end of the BlueDisk card that is farthest away from the back of the IIGS. This means I either have to leave the top off my IIGS (not on *my* desk!), run the ribbon cable out the side of the IIGS case (and run the risk of breaking a conductor or two each time I open/close the case, or run the cable all the way back to the back of the machine and out. I chose the latter, of course, but it left me with precious little cable between the back of the computer and the first floppy drive. Granted, on the back page of the manual SHH Systeme provides a schematic of the cable so I could make my own extra long cable, but I really shouldn't have to. If the card was built so the connector was near the back of the computer, I would have a lot more freedom in where I put my new drives.

Singing the Blues?

I should point out again that if I had read the BlueDisk manual at the outset, I would most certainly not have had most of the problems I experienced. *Every* problem I ran into was addressed in the manual, which is quite clear and well-written.

Would I recommend the BlueDisk controller card to you? Unreservedly! For one thing, given the relative cost of the BlueDisk card when compared to the Apple SuperDrive card, the BlueDisk is a bargain. Add in the fact that a brand new Chinon 3.5-inch High Density Floppy Drive costs about \$40, and a Chinon High Density 5.25-inch drive costs about \$30 (total set up: about \$220 with cables), and further add in the fact that the BlueDisk card works like a dream, and, well, you have a match made in heaven. **GS+**

Understanding IIGS Icons

By Steven W. Disbrow

Few things give IIGS owners as much joy, or cause them as much frustration, as icons. Over the years, we've had dozens of readers call or write to ask us to *please* explain how the IIGS makes use of icons. We've touched on the subject in the past, but since we are publishing an actual icon editor in this issue (see the "ICE" article), we thought it would be a good idea to try and completely explain what icons are, how they work on the IIGS and how you can use an icon editor to gain more control over them. So, without further adieu, let's answer that ages old question...

What is an icon?

If we ignore the religious aspects of "icon" and concentrate solely on the computer definition of the word, the answer is fairly simple: An icon is a small picture that represents something on your computer. That's easy enough to grasp, right? Well, not to worry, like most computer-related topics, it gets more complicated. But, not *too* much more complicated.

You see, on the IIGS, an icon is not *just* a picture. It is actually made up of two parts: an *image* and a *mask*. These two parts work together to create the icon picture that you see on your screen. But, to know how these parts work together, we have to first look at each part individually.

The Image

The image portion of an icon is the actual picture that you want displayed. If you want your icon to look like, say, an ant, your first step would be to create an image part that looks like an ant. There's not much more to say about the image. It's

simply a picture of what you want your icon to look like.

The Mask

The mask part of an icon is much more interesting. Actually, the name "mask" is a bit misleading given what an icon's mask actually does. For example, when you think of a mask, say a Halloween mask, you think of something that covers up an image. However, an icon's mask actually specifies the parts of the icon's image that you want to show up when the icon is drawn. To continue with our Halloween mask example, let's say that you are dressing as a ghost by using a bedsheet with two eye holes cut into it. Your face could be considered the image and the sheet the mask. However, your face (the image) only shows up where the mask (the sheet) isn't at. In other words, all people can see of your face is your eyes. This is the only part of your image that your mask lets show through.

Put Them Together and . . .

So the two parts of an icon (the image and mask) work together the same way our ghost disguise does. If you were to lay the icon's mask over its image, the white areas of the mask (the sheet) would "hide" the parts of the image that it overlays. However, the black areas of the mask (the holes in the sheet) would let the parts of the image that they cover show through. Similarly, when the IIGS draws an icon, it first lays the mask over the image. Then it draws the parts of the image that show through the "holes" in the mask.

So, when you use an icon editor to change an icon's image and mask, there are a few things to remember:

1) When the icon is drawn, the mask will be laid over the image first. Only the parts of the image that "show through" the mask will actually show up on the screen.

2) The image you create is what the icon would look like if the mask were completely filled with black. (i.e. If the sheet were full of holes, people could see you completely.)

3) The white areas of the mask will cover up the areas of the image that are beneath them.

4) The black areas of the mask will act like holes and the areas of the image that are beneath them will show up.

For example, look at the screen shot accompanying this article. The image is several black squares inside one another. The mask however, is completely black. The resultant icon therefore, looks exactly like the image—several black squares inside one another. This is because the black areas of the mask completely "cover" the image. So, all of the image shows through to be drawn in the final icon.

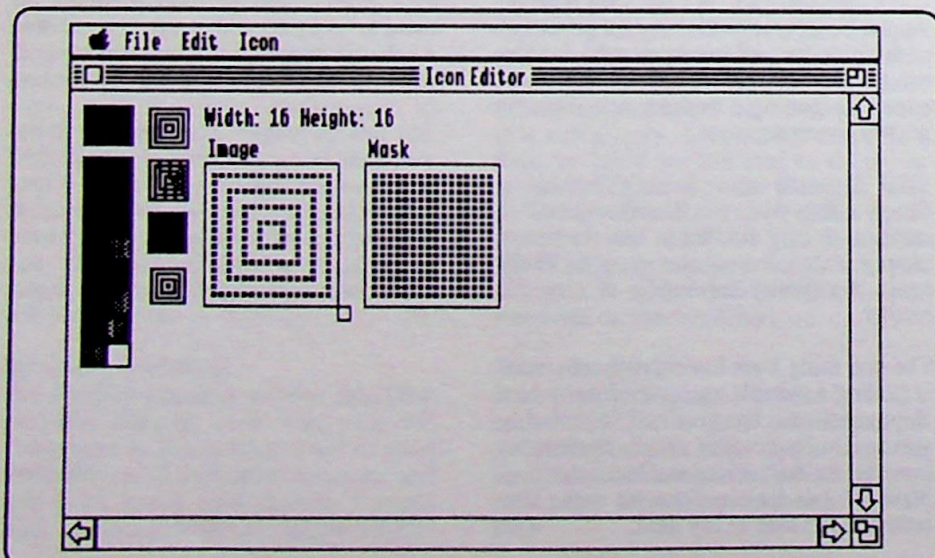
Of course, this explains how a black and white mask works, but what about . . .

Color Masks

Many icon editors (including our own ICE) allow you to use color masks in addition to the simple black and white mask that we just looked at. So, what's the difference? Well, the main difference is that, while a black mask lets everything beneath it show through, a color mask lets only *part* of what's beneath it show through. To go back to our ghost costume example, let's assume that after cutting the eye holes in your sheet, your mother takes some razor blades and makes a series of slashes down the length of the sheet. When you put on your costume and go trick or treating, people will be able to see your eyes clearly, but when they look at the rips in the sheet, they will only be able to get a glimpse of what's underneath. That's pretty much the same thing a color mask does. It only lets part of what's underneath it show through. Exactly what shows through depends on the size of the rips in your sheet or the color you use for the mask.

But, Why?

Now, even if you understood all of that, you might be saying to yourself, "We've got our picture in the icon's image, why



in the world do we even *need* a mask?" Good question. The answer is, "Because icons are *always* rectangles, but the pictures they show aren't." The reason that icons are always rectangles is that, from the computer's point of view, a rectangle is a very easy shape to deal with. (You have to realize that computers are dumber than the dumbest living thing you can think of. It takes a great deal of effort to get them to do anything truly useful! So, a simple shape like a rectangle is perfect for defining the limits of an icon's size.) An icon's image however, is very rarely a simple rectangle. So, you have a non-rectangular image (an eyeball, for example) inside this rectangular space. We could just have the computer draw the entire rectangle of the image, but that would give us an eyeball inside an ugly rectangle. How will the computer know which parts of the image are the ones we want drawn? The answer is that it can't, unless we use a mask to tell it what those parts are.

That's really all there is to the basic idea of an icon. Just about any IIGS program can use icons in this basic form. However the program that makes the most use of icons is the Finder. So, the remainder of this article will look at how the Finder uses icons, and how you can change the icons that the Finder uses.

How the Finder Uses Icons

Like any other program, the Finder uses icons to represent things. However, the Finder uses icons to represent some very specific things: the files that you find on your disks, and the devices you have hooked to your IIGS. In other words, the Finder uses icons to represent the disks you have online as well as the files that are on those disks. (The Finder also has one special purpose icon that it uses—the Trash can icon. This Trash can icon represents neither a file or a device. It represents a visual "holding pen" for files that you wish to remove from one or more of your disks.)

As I said, any program can use icons. The thing that sets the Finder apart is that every IIGS owner has a copy of it, and that the way the Finder uses its icons has been extensively documented. This last fact has led to the creation of several programs (called *icon editors*) specifically intended to let "Joe User" *change* the icons that the Finder displays for *his* files and devices. So, to better understand how both icon editors and the Finder work, let's look at the icons that are used by the Finder.

Finder Icons

When the IIGS Finder was first released,

Apple defined a new type of file whose only purpose is to hold icons that are to be used by the Finder. These files are called *Finder Icon* files. Inside these files are one or more icons that the Finder loads when it starts up. However, these files don't *just* have icons in them. In addition to icons, there is also information about which file or device a particular icon is to be used for. After the Finder loads all of this information, it looks at the information and tries to match it to the devices and files that are on the user's system. If the Finder can match the information with a file or device it then uses the corresponding icon to represent that file or device on screen. All of this information, taken together, is called an *Icon Data record*. A Finder Icon file is made up of one or more Icon Data records, each of which is loaded by the Finder and can potentially be used to represent one or more files or devices on a IIGS. Before the Finder decides which Icon Data records will represent which files and devices, it conducts several tests trying to match information in the Icon Data record with information from the file or device. If there is a match, the Finder uses the icons inside the Icon Data record to represent the file or device on the screen. (By the way, from here on out, I'll just say "file" instead of "file and/or device.")

So, what's in an Icon Data record? Well, there are six main parts to an Icon Data record. They are:

1) A "large" icon - This is a standard icon (like we discussed at the beginning of this article) that the Finder will use when it needs to display matching files in one of its "large" views.

2) A "small" icon - This is another standard icon. The difference is that this icon is usually much smaller than the "large" icon. The Finder will use this icon when it needs to display matching files by their small icon. (For more on viewing things by "large" or "small" icon in the Finder, see your IIGS owner's manual.)

3) A file type to match - This is a numerical value (usually expressed in hexadecimal format) that tells the Finder the GS/OS file type of the file that the above icons should be used to represent. If this value is zero, the Finder will ignore the file type of the file when trying to match it with this Icon Data record. (In other words, a zero value acts as a "wildcard" and matches *every* file type!) If this value isn't zero, the Finder will only use this Icon Data record for this file if the file's type matches this value *exactly*.

4) An auxiliary file type to match - This works exactly like the file type to match, except that it is tested against the GS/OS auxiliary file type of the file.

5) A file name (no more than 15 characters long) to match - Like numbers three and four, this is another field that must match with a file's information before the Finder will use this Icon Data record to represent a file. Unlike the last two fields however, this is not a numerical value, but the actual name of a file that must be matched. So, if this field contained the string, "File.1", the Finder would only use this Icon Data record to represent files that have a name of "File.1".

Of course, that's a bit strict isn't it? Fortunately, like the last two fields, this one also has the ability to use a wildcard to match a wider range of file names. The wildcard in this case is the asterisk character ("*") and it can either appear by itself, or as part of a longer file name. When you use the asterisk by itself, the Finder will basically ignore this field, and all files, regardless of their file name, will be considered to be matches. When used as part of a longer file name, the asterisk tells the Finder to match anything where the asterisk is, while still checking the rest of the file name for a match. For example, if this field contained the string "Apple.II*" it would match the following file names: "Apple.IIGS", "Apple.IIe", "Apple.IIc", "Apple.III" and "Apple.II4ever". However it would not match any of the following file names: "MacintoshII", "ILuvApple.II" or "ClonzRule".

6) The pathname of an application to run - This last field tells the Finder exactly which application that it should run when the user opens a file that is represented by this Icon Data record. This pathname can be up to 64 characters long. If this Icon Data record is itself intended to represent an application, this field should be empty.

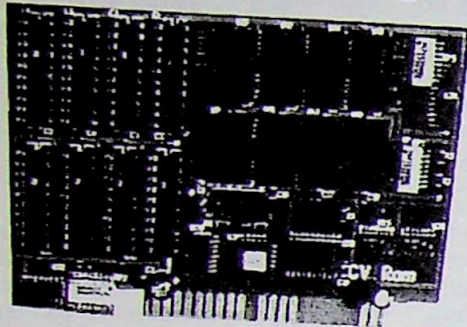
It's very important to note that for an Icon Data record (and its icons) to be used to represent a file, all three of the "match fields" (fields three, four, and five above) *must* match the file the Finder is checking them against. If even one of these three fields fails to match the information from the file, the Finder won't use that Icon Data record for that file.

Match Making 101

So, let's say that you want to use the ICE icon editor to make a new icon to represent the text files that are on your system. How would you do this? Here's a step by step outline:

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1) First, you would crank up ICE and create a new Finder Icon file.

2) Create a new icon and edit its image and mask so that they look just the way that you want them.

3) In the field labeled "File type to match", you must type in the GS/OS file type number for text files. That number is four, so you would type in a "4".

4) Now, in the field labeled "Auxiliary type to match" you should specify the auxiliary file type of the files that you want this icon to match. Text files however, have no specific value for their auxiliary file type. In fact, a text file's auxiliary file type can be *any* number! So, for this field you should specify a zero. This will tell the Finder that you don't care what the auxiliary file type is, just as long as the file type is four.

5) Now you need to specify the name of the text file that you want this icon to represent. Of course, you want this icon to represent *every* text file that you will ever use! So, in the field labeled "Name of file to match", you would simply type in an asterisk, like this: "*"

6) Of course, it would be nice if you could double-click on a text file and have an application run and open it for you.

This is exactly what the Teach application is intended to do for text files, so let's set up this icon to run the Teach application. Now, assuming that you have the Teach application on your startup disk in a folder named Teach, you would type the pathname "*" : Teach : Teach" into the field labeled "Name of owning application". (Note that in this case, the asterisk represents the name of your startup disk and is *not* a wildcard character. This is because the pathname is *not* used as a match field when the Finder is trying to match an Icon Data record to a file. For more on this use of the asterisk character, see the discussion of prefixes in this issue's installment of "The GS+ FAQ File.")

7) Finally, you have to save this new icon in a place where the Finder will be able to get at it. The Finder keeps all of its icons in a folder called, oddly enough, **Icons**. So, save your new icon file in the **Icons** folder on your startup disk. That's it!

So, what we've done in this example is create an icon that the Finder will match up with any file that has a file type of four, regardless of its auxiliary file type or its file name. Also, we've told the Finder that, when the user double-clicks on one of these files, it should run the Teach application, which is located on our

startup disk in a folder called (cleverly enough) Teach.

That's Cool, Isn't It?

Now, if you were able to follow all of that, you are probably thinking to yourself that Finder Icon files are a pretty cool way for the Finder to get this part of its job done. Well, they were . . . until the Macintosh file system came to the IIGS!

You see, when Apple gave the IIGS the ability to use AppleShare file servers and Macintosh disks (which are called HFS disks), they also gave it the ability to have files with names longer than 15 characters. This was a very bad thing as far as Finder Icon files were concerned, because (as we just discussed) an Icon Data record can only match a filename up to 15 characters long. Another problem is that, on a Macintosh disk, for example, every file and folder can have a name up to 32 characters long. So, when you try to specify an application pathname in an Icon Data record, you can rapidly use up the 64 characters of space that you have! So, for these reasons (and others), Apple had to come up with something new.

Enter the rBundle

What Apple came up with was something that would have made even H. P. Lovecraft have nightmares. It's called an *rBundle*.

The rBundle is an extremely complex resource that the newest Finder uses in much the same way that it uses Finder Icon files. (This is an important point. Although Finder Icon files are no longer "cutting edge," the Finder *still* uses them. They just get a lower priority when figuring out which icons to use. More on this later.) Just like Finder Icons, the Finder loads rBundles when it first starts up and it uses "match" fields inside the rBundles to determine which icons will be used to represent which files. Unlike Finder Icons however, rBundles have a *lot* more criteria that can be used for matching files to icons. For example, with an rBundle, you can match files not only by name, file type and auxiliary file type, you can also match them by creation date, modification date, even their network access attributes!

Frankly, the discussion of what's inside an rBundle and how they really work is way beyond what this article is intended to cover. The main thing to understand is that rBundles were intended to replace the Finder Icon file way of doing things, and that they were designed to be incredibly flexible and powerful. Of course, that power and flexibility means that rBundles are very tough to work with, so there isn't currently an editor available for them. (This is the part of the article where I promise you that the next version of ICE *will* include an rBundle editor. It will!

And I promise that when that version of ICE is released, I'll write a similar article on understanding rBundles!

So, having neatly sidestepped the issue of rBundles, I've got to answer the question that I know is on your lips, namely, "What does this have to do with icons?"

Well, as I said before, rBundles were intended to replace Finder Icon files and the Icon Data records that they use. So, just as Icon Data records have icons (i.e. an image and a mask) associated with them, rBundles do too. However, instead of being part of one big "thing" (like an Icon Data record), rBundles and their icons are kept separately. The rBundle simply keeps track of which of those separate icons should be used when it finds a file that it matches. The rBundle and its associated icons are still in the same file of course, they are just stored separately inside that file.

To be specific, under the rBundle scheme icons are kept in a completely different type of resource, which is called an *rIcon*. So, these rIcons (which are basically just an icon's image and mask kept in a resource) can be easily loaded and manipulated—which is exactly what the ICE program does. Of course, ICE can't yet edit the rBundles that use these rIcons—it simply lets you load the rIcons and alter their appearance.

Back to the Finder

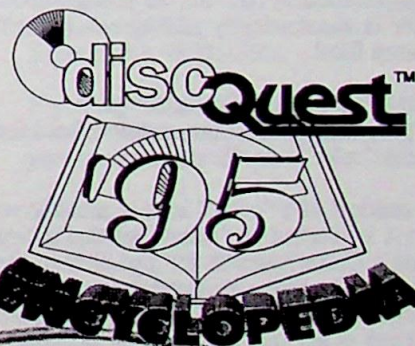
At this point, we've looked at what an icon really is and the two main ways that they are stored on the IIGS. Now, let's look at how the Finder determines which icons it should use to represent the files on your system.

When you run the Finder, the first thing it does is load all of the icons it has available for use. The Finder loads its icons in what is called "device order." Under the IIGS disk operating system, GS/OS, each device (like a disk drive or hard disk) is assigned a number. These numbers start at one and increase until all of the devices attached to your computer have been given a number. (You can get a fairly accurate idea which disks have been assigned which device numbers by the order that they appear on the Finder's desktop. i.e. The first device to appear is device number one, and so on.) The Finder uses these device numbers to guide its search for icons to use. So, starting with device number one (which is almost always your startup disk), the Finder does the following:

- 1) The Finder opens the Icons folder of the device and looks for an invisible file called **Desktop**. This file contains rBundles and rIcons (and some other resources) which the Finder loads and adds to the end of its internal list of file matching and icon information.

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2) After the contents of the **Desktop** file are loaded, the Finder loads any Finder Icon files that are in the **Icons** folder. The Icon Data records in these files are also added to the end of the Finder's internal list of file matching and icon information.

3) After all of the Finder Icon files have been loaded, the Finder goes to the next device, loading its **Desktop** and Finder Icon files. (In other words, the Finder goes to the next device and jumps back to step one.)

When the Finder has loaded all of the **Desktop** and Finder Icon files from all of the devices hooked to your IIGS, it then looks inside its own resource fork and loads the **rBundles** and **rIcons** that are there. When this is finished, the Finder has a long list of file matching criteria and a lot of icons loaded into memory.

So then, when the Finder needs to figure out which icon should be used to represent a particular file, it starts at the beginning of the list it has built and tries to find a match with the information in an **rBundle** or an **Icon Data** record. When it finds a match, it uses the icon that goes along with that **rBundle** or **Icon Data** record.

What you should notice here is that the Finder looks for matches on a "first come, first served" basis. In other words, if you have a green icon for text files on your startup disk (device number one) and you have a red icon for text files on another disk (with a higher device number) the *green* icon will be loaded first by the Finder and so it will be the first one that matches your text files.

So, that should leave us with but one question remaining, "How do those **Desktop** files get **rBundles** and **rIcons** in them?" The answer is simple: the Finder puts them there! You see, whenever you run an application, like **ICE**, the Finder looks inside the application's resource fork to see if it has an **rBundle** inside it. If it *does*, and the Finder doesn't already have a copy of that **rBundle** in one of the **Desktop** files, the Finder copies out that **rBundle** and any associated resources (like **rIcons**) and puts it in the **Desktop** file of the disk that the application is on. So, as you go about using your IIGS, the Finder is automatically adding new **rBundles** and **rIcons** to your **Desktop** files!

Wait! You Forgot Something!

Oh, yes, there is *one* more question that I forgot to address: What's up with "color" icons?

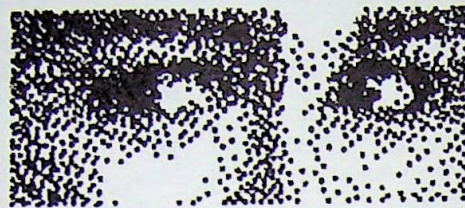
The concept of a "color" icon is actually very simple. Basically if an icon is marked as "color," all that means is that, if you use the Finder's **Color** menu to try and change the color of the icon, the Finder won't change it. In other words, when you use an icon editor to mark an icon as "color" you are telling the Finder, "I worked long and hard to get this icon to look *just right!* So I don't want you changing its colors! Hands off!"

On the other hand, if you don't mark an icon as "color," selecting the icon and then using the Finder's **Color** menu on it will apply that color to the icon, with potentially weird results.

That's It!

Well, I think that about covers it. We've looked at what an icon actually is, and how it's used in two different ways by the Finder to represent the stuff on your IIGS. Of course, there is more to tell (especially about **rBundles**), but that will have to wait for another time. Until then, this article should give you a much better handle on how your IIGS makes use of icons and how you can make use of an icon editor to take even more control of your computer. So crank up your new copy of **ICE** and start editing those icons! **GS+**

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What's New?

Compiled by Steven W. Disbrow

Morph For Your Money

By now, we've probably all seen at least one movie or TV commercial where a computer of some sort is used to smoothly change one object (or person) into another. This amazing effect is known as "morphing" and now, believe it or not, you can do this same trick on your IIGS! All you need is the new program from the Byte Works: Quick Click Morph.

Quick Click Morph allows you to take two pictures, and by defining starting and ending points between the pictures, create a standard PaintWorks animation file that shows the first picture metamorphing into the second picture! The fact that Quick Click Morph creates a standard PaintWorks animation file means that you can use your morphs in any program that can play back this type of animation. For example, you could create a morph of all the Presidents (i.e. Washington changes into Jefferson and, later, Clinton changes into Limbaugh) and then play it back in a HyperStudio stack! (Other programs that can use PaintWorks animations include: Animasia 3-D, Twilight II, FLI Convert and Finder View.) The possibilities are only limited by the pictures that you can get your hands on!

Speaking of which, one of the nicest features of Quick Click Morph will be that it can open and use a lot of different picture formats. Of course, it will open most IIGS formats (including 3200 color pictures!), but the neatest format it can use is known as a "TIFF" file. "TIFF" stands for "Tagged Image File Format" and it's one of the single most popular graphics file formats in use today. Just about every Macintosh and PC graphics program can generate TIFF files, which means that

Quick Click Morph users should have a lot of cool pictures to work with! (Note however that Quick Click Morph can only open uncompressed TIFF files.)

Of course, you might be thinking that since TIFF files come from the Mac and the PC that they will have too many colors for Quick Click Morph to handle. Well, Quick Click Morph lets you create 256 and 3200 color morphs! (But, of course, these will take a lot longer to generate than black and white or 16-color morphs.)

Sounds cool doesn't it? At this point, I've only seen a sample morph (showing a young girl changing into a cat) which I thought was very, very good. If the final version of Quick Click Morph lives up to the standards set by other Byte Works products, this should be an amazingly cool product!

Quick Click Morph is supposed to be shipping by the time you read this. The price will be \$60, and there will be a \$5 shipping charge for U.S. and Canadian orders. For more information, contact:

Byte Works, Inc.
8000 Wagon Mound Dr. NW
Albuquerque, NM 87120
(505) 898-8183
Internet: MikeW50@aol.com

Take a Byte of This!

After many months in development, DigiSoft recently announced that the Golden Orchard CD-ROM began shipping in early April! The contents of this CD are focused squarely at IIGS owners, unlike past CDs that have been Apple II or Mac/Apple II oriented. For example, not only does this CD contain the latest

System Software and HyperCard IIGS, it also contains 28MB of TrueType fonts, 28MB of HyperCard and HyperStudio stacks, 8MB of 3200 color pictures, just about all of the classic FTA demos and a ton of other stuff that's just for the IIGS! Finally!

All in all, there's over 600MB of stuff for your IIGS! The price? Only \$65 (Make your check payable to "Jim Maricondo" and add \$2 for shipping to the U.S., or \$3 for shipping to Canada and Mexico, or \$5 shipping to anywhere else). For more information, or to order, contact:

Jim Maricondo
DigiSoft Innovations
P. O. Box 11005
Stanford, CA 94309-1005
Internet: digisoft@hypermall.com

Mall-Adjusted

Do you cruise the World Wide Web? Are you looking for a cool place that has lots of cool Apple II support? Well then check this out! Interlink has just opened a new web-site called HyperMall that has a special place in its heart for the Apple II. To find out just what I mean, web on over to <http://hypermall.com> or contact Interlink the old-fashioned way at:

Interlink
P. O. Box 7506
Everett, WA 98201-7506

If you have a IIGS product or service, we want to help you spread the word! Send your press release to:

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II Notes v2.0.1

By Josef W. Wanklerl

II Notes is a new desk accessory (NDA) that makes a notepad available at all times from your Apple menu. II Notes v2.0 appeared in the previous issue (V6.N4) and, under most circumstances, it worked great! But, there were a few conditions which caused II Notes to behave very badly. II Notes v2.0.1 fixes all of these problems. If you're a brand new user of II Notes starting with this issue, the full documentation for II Notes is on your GS+ Disk in the **Documentation** folder. This article just explains the changes made to II Notes from the v2.0 version.

The Really, Really Bad One

If you don't read any other part of this article, please at least read this part thoroughly before you use II Notes v2.0.1! II Notes v2.0 has a problem creating a new empty **Notes.File** to hold all your notes. This was the most widely reported problem with II Notes. Before you use II Notes v2.0.1, *be sure to delete the corrupted Notes.File from your *:System:Desk.Accs folder!* If you don't delete the bad **Notes.File**, II Notes v2.0.1 will not operate correctly! II Notes v2.0.1 will correctly create a new empty **Notes.File**. The Installer script for II Notes does *not* delete your **Notes.File** for you, you must do it yourself. *If you were a user of II Notes v1.0, you do not have to delete your Notes.File because II Notes v2.0 correctly updated your Notes.File.*

Deletion Instructions

In case you need to delete your **Notes.File**, here are some instructions on how to accomplish this using the Finder: First, double-click on your boot drive icon. This will open a window containing all the files at the root level of your boot drive. One of the items in this

window is a folder named **System**. Double-click on the **System** folder icon to open it. One of the items in the **System** window is a folder named **Desk.Accs** where all your desk accessories are kept. Double-click on the **Desk.Accs** folder icon to open yet another window. One of the items in this window is named **Notes.File**, and it is the file you want to get rid of. Simply drag the **Notes.File** icon to the trash can on your desktop, then choose the Empty Trash menu item from the Finder's Special menu.

Close?

When you selected the Close menu item from the II Notes v2.0 menu bar, II Notes would most likely crash or hang your system. II Notes v2.0.1 fixes this problem. The reason this happened, in case you wanted to know, is because the II Notes menu bar was made the current menu bar, and after II Notes had closed, the old menu bar was not restored. (If you're wondering how this slipped by, I conveniently forgot that MenuSelect makes the menu bar given to it the current menu bar! I'm surprised that this problem only showed up when II Notes was closed—it should have shown up a lot more often.) II Notes v2.0.1 is now much more careful when it comes to saving and restoring the current menu bar.

Out of Memory?

A few people reported that after running II Notes v2.0, certain programs would report they ran out of memory. After looking into the problem some more, it was found that II Notes v2.0 was not shutting down some tools it started or releasing any memory those tools needed. In case you're curious as to why this happened, II Notes shuts down all tools when the Desk

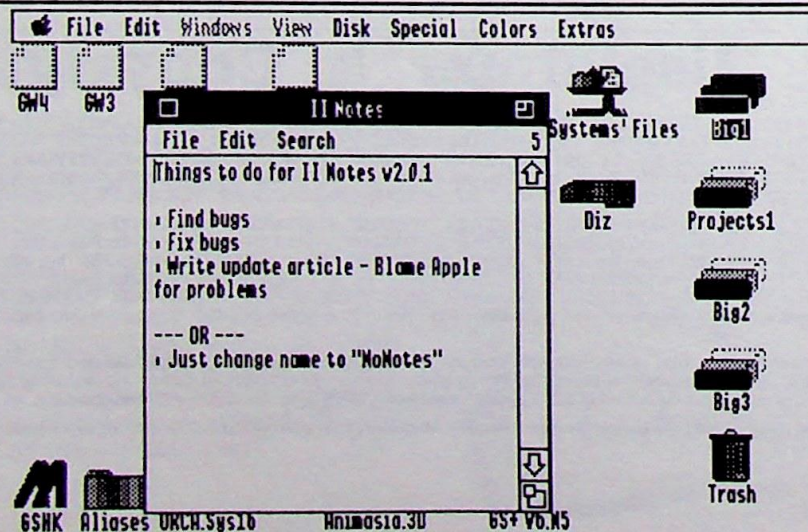
Manager is shut down, like all good new desk accessories should. However, II Notes also does some initial housekeeping the very first time the Desk Manager is shut down. To distinguish between the very first shut down and subsequent shut downs, II Notes maintains a simple flag. II Notes v2.0 simply forgot to set that flag after it saw the first shut down, so the tool shut down code was never executed. II Notes v2.0.1 now correctly handles this.

Printing Subscribed Pages

All the problems mentioned before were fairly serious. The final change to II Notes is a very minor one, and it deals with printing subscribed pages. With II Notes v2.0, if you made a change to a subscribed page and then printed it, the changes you made would not be printed (because II Notes would load the subscribed information for printing and your changes are not present there). II Notes v2.0.1 will now correctly print a subscribed page with local changes made to it. Note, however, that the changes you make are *not* permanent. The next time you move to that subscribed page, the edition is reloaded and any changes you may have made will disappear.

End Notes

II Notes is a great way to keep essential bits of information on hand. I said before that II Notes has been tested extensively, and I don't think you'll have any problems with it. Hopefully with this new version, that sentence will ring a little more true. However, there's always a remote chance that something slipped through testing this time, too, so if you encounter any problems, please fill out a problem form and return it to us. **GS+**



Rainbow v1.0.2

By Josef W. Wankerl

The Rainbow program, which was introduced in *GS+ V4.N3*, was a pretty big success. Over the years, I've had lots of fun with the colored window title bars and an orange trash can. Every now and then, however, I'd notice some strange behavior when a system window (like a new desk accessory window) was opened. The system window title bar color would change! Of course, this *had* to be Rainbow's fault, and after examining the source code, I found for certain that it was. Version 1.0.2 now makes absolutely certain that the window is not a system window before it applies a new color to its title bar.

For the benefit of those of you who don't already have Rainbow, I've always been a bit annoyed that the Finder will save icon placement on the desktop and window positions (in those *infernal Finder.Data* files—which everyone calls “Finder droppings”), but it refuses to remember the color for my devices and the trash can. To put an end to this (and a whole lot more!), I give you . . . Rainbow.

Installing Rainbow

To install the Rainbow Finder extension, refer to “How to Use Your *GS+ Disk*” in this issue. Rainbow can only be used with System 6 and later, although it will not hurt anything to install it on previous system disks.

At First Glance

OK, now that you already know that Rainbow will remember the colors of your devices and the trash can icon, you might as well try it, right? Let's color the trash can orange. First, select the trash can by

clicking on it, then choose the orange color from the Finder's Color menu. Your trash can will then turn a pretty shade of orange. Now launch an application to quit the Finder, then quit that application to come back into the Finder. During the Finder's startup sequence, you'll notice that the trash can will be selected and then change back to the nice orange color that you selected before. Pretty neat, huh? Well, wait, there's more!

Rainbow Connection

Has this ever happened to you: You're in the Finder with your ***:System** folder window open, you're going to copy a file in a folder called **System** from another disk, and you become confused as to which window is which? Well, lament no more!

In addition to simply remembering the color of device and trash can icons, Rainbow will set the window title bar color to be the same color as the volume icon it belongs to! To try it out, open the trash can. Notice how the title of the trash window is orange? Try something else now: Color your boot drive icon green. If you're like me and you use the standard icons that come with System 6, the color of the boot drive icon won't actually change color on the desktop since the icon is defined as a “color” icon. However, the Finder still thinks that the icon is green, it just doesn't draw it that way. Now open your boot drive. See that the title of the window is green? Now get information on your boot drive. The title of the information window will be green too!

It's Not Easy Being Green

Let's say that you don't particularly like

your boot drive icon being green. Why not change it to something more appealing . . . say red? Just select your boot drive icon and choose the red color from the Finder's Color menu. Rainbow will then update all your open windows that belong to your boot drive to appear with the red color.

I Want my Old Color Back

You can tell Rainbow to forget the color for a device by selecting the device and picking either white or black from the Finder's Color menu. Now how much will you pay? Don't answer yet! Just wait to see what else you get as a free bonus gift!

Modifier Mania

When Rainbow is installed, you can instantly close all the windows relating to a particular volume. All you have to do is have a directory window (not an information window) for the volume in the front and select the Close menu item from the Finder's File menu while holding down the shift key. You can also press Command-shift-W to close all the windows relating to a particular volume. You cannot, however, hold the shift key down and click in the close box of a directory window. This is because the Finder doesn't notify Finder extensions of this situation like it does when the actual menu item is selected.

End of the Rainbow

I hope you discover Rainbow to be a pot of gold, as I have. If you have any problems with Rainbow, please be sure to fill out and send in a Problem Form so that I can fix them. **GS+**

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Here's what we've heard about it...

I'll wager that this is the finest, most comprehensive communications program that has been designed, for any platform.

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Great job guys!

This is the best piece of software that I have had for my IIGs barring none!! Fantastic!!!!

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The GS+ FAQ File

By Steven W. Disbrow

Each day, we get asked a lot of questions related to the IIGS. Some of these questions get asked more frequently than others, so we've decided to answer them once and for all in this, "The GS+ FAQ File." If you have a question about your IIGS, take a look at the following questions and at the file **GSP.FAQ** that is on your **GS+ Disk**. (This file is in the **Talk.To.GSPlus** folder that is inside the self-extracting archive. The **GSP.FAQ** file contains the previous installments of this department and your question may very well be answered there.) If you can't find an answer to your question, give us a call or send us a letter and we'll try to answer it as quickly as possible! (By the way, just in case you were wondering, "FAQ" stands for "Frequently Asked Questions," and it is pronounced "fack.")

Q: What is the difference between the "Command" key and the "Open-Apple" key?

A: Actually, there is no difference! The Command key and the Open-Apple key are actually the same key. This key is called by two different names because Apple couldn't decide exactly what to call it when it first came into use. When the Apple IIe was introduced, it had two new keys on its keyboard. Each of these keys were marked with a picture of an apple. However, one of the apples was hollow, and the other was solid black. Since nothing else was printed on the keys, people began calling them the "Open-Apple" key and the "Closed-Apple" key. (The Closed-Apple key was also sometimes called the "Solid-Apple" key.) These names caught on, and everything was fine... until the Macintosh was introduced. You see, the Macintosh also had an Open-Apple key, but that key also had another symbol on it. That symbol resembled a propeller and Apple called it the "Command" key. Since Apple was calling it that, Macintosh owners called it that. (The Macintosh keyboard didn't have a Closed-Apple key. In its place the Macintosh keyboard had an "option" key.)

So, when the IIGS was introduced a few years later, its keyboard was modeled after the Macintosh keyboard. This meant that the Open-Apple key also had the Command symbol on it, and the Closed-Apple key was replaced with the option key. This led to some confusion among the folks that used and wrote about the IIe and then moved to the IIGS. Over the years, the terms "Open-Apple" and "Command" have been used pretty much interchangeably to describe this key, while the term "Closed-

Apple" has disappeared. So, if you ever see a reference to the "Command Key" you should know that it means the Open-Apple key (and vice versa). Also, if you should ever see a reference to the "Closed-Apple key," you should know that it means the option key. (Here in *GS+ Magazine*, we use the term "Command key" exclusively.)

Q: How can I tell how much space the files in a folder take up on disk?

A: Well, if you are using the Finder, this is a pretty simple thing to do. All you have to do is:

- 1) Select the folder that you want to get the size for. (i.e. Just click on the folder once with the mouse, don't double-click!)

- 2) Select the Icon Info menu item from the Finder's Special menu. This will bring up an information window for the folder.

- 3) Near the lower right hand corner of the information window there will be a calculator icon. Click on this icon, and the Finder will begin adding up the sizes of all the files in the folder. When the Finder is finished, it will update the information window to tell you how many files and folders are in the folder as well as telling you how much disk space they all take up. That's all there is to it!

Q: The files that are in the **Documentation** folder on the **GS+ Disk** use fonts that are hard to read. Would it be possible for you to change them in the future so that those of us with less-than-perfect vision can read them?

A: One reason we use the fonts we do in our disk-based documentation is that they match the fonts that we use in the magazine. This helps us to keep our documentation consistent between the magazine and the disk, and it allows us to use the same typographic conventions (i.e. *courier* for code fragments, **boldface** for filenames, etc.) in our disk-based documentation. Another reason that we use these fonts is that they look really nice when you print out the documentation. However, if you don't plan on printing out any of the documentation, you can easily change the fonts yourself. Simply open the offending file using EGOed lite, pick the Select All item from the EGOed lite Edit menu, and then pick a font and size that you can easily read from the EGOed lite Font and Size menus. (Courier and 12 point are favorites of mine.) If you are working from your backup copy of your

GS+ Disk (and you should be!) you can then pick the Save item from the EGOed lite File menu and the new font and size will be saved so that you don't have to reset it again.

Q: What is a "pathname"?

A: A pathname is a disk name followed by a list of folders that you must open to get to a particular file. (In other words, a pathname specifies the "path" you must follow to get to a file.) For example, let's assume you have a file called "Test1", which is in a folder called "Tests", which is on a disk called "School". The pathname of this file would be **":School:Tests:Test1"**. Looking at this pathname, you would know that to get to the file **Test1**, you would have to open the disk **School** and then, on that disk, open the folder **Tests**. The colons (:) in the pathname are used to separate each part of the pathname. (The colon at the front of the pathname tells you that the first part of the pathname is the name of a disk.) A pathname that tells you exactly how to get to a file (i.e. it specifies the disk, all of the folders you have to open, and the file) is called a "complete pathname." A pathname that doesn't tell you exactly how to get to a file (perhaps the name of the disk has been left off) is called a "partial pathname." To make use of a partial pathname, you have to combine it with a *prefix* to make a complete pathname. (See the next question for more information on prefixes.)

Pathnames are most often used internally by GS/OS programs to keep track of the locations of files. However, you will sometimes see pathnames used in the documentation for a program. Note also that some older operating systems that the IIGS can use (ProDOS 8 and ProDOS 16) can also use pathnames. However, these older operating systems do not use the colon (:) for a name separator. Instead, they use the slash symbol (/) to separate names. (GS/OS also recognizes the slash separator, but you can't mix colons and slashes in a single pathname!) So, the pathname we looked at before could also be given as **"/School/Tests/Test1"**, and it would specify exactly the same file. (Here in *GS+ Magazine*, we always use the colon separator.)

Q: What the heck are "prefixes" and how do I use them?

A: If you understand what a pathname is (see the previous question if you don't),

you probably have thought that it would be a pain to have to always keep track of a complete pathname for each and every file that you want to work with. For example, if you have a folder with 100 files in it, the pathname of each and every one of those files is the same, right up to the folder that they are all in. The part of the pathname that all of these file have in common comes before the filename, so it is called a "prefix." So, instead of keeping 100 copies of that prefix around, why not just keep one copy around that you can use for all of the files in that folder? Better yet, why not use a shorthand notation for that prefix so that we don't even have to remember exactly what it was? Good idea!

So, in a nutshell, a prefix is a commonly used string that GS/OS (the IIGS operating system) keeps track of for you. These strings represent the beginning of a pathname (which, again, is why they are given the name "prefix"). You use these prefixes to make complete pathnames by "tacking on" the remainder of the pathname at the end of the prefix.

GS/OS actually keeps track of 34 different prefixes for you, and (as I hinted at earlier) it uses a shorthand notation to let you get at each prefix easily. Thirty two of these prefixes are numbered (0 through 31) and you reference them simply by supplying the appropriate number followed by a colon (:). So, for example, to get at the contents of prefix number nine, you would reference it by specifying "9:". (The other two prefixes are special and we'll talk about them in a moment.)

Now let's put all this together. Let's say that you have a folder with 100 files in it. And let's say that these files are named "File1" to "File100". Let's also say that the pathname to that folder is ":Disk1:Folder1:". So, the complete pathname of every file in this folder begins with this prefix string. Now, let's further assume that GS/OS has this prefix string stored in prefix number nine. Finally, let's assume that you want to reference the file named "File57". Assuming all of

these things, you can reference this file in either of two ways:

- 1) By using the file's complete pathname of ":Disk1:Folder1:File57".
- 2) By using the prefix number and the file name like this: "9:File57".

When you use the second method, GS/OS sees the prefix designator of "9:" and automatically substitutes the prefix string of ":Disk1:Folder1:" for it. This gives you a complete pathname of ":Disk1:Folder1:File57".

As I said, GS/OS has 32 different numbered prefixes that it keeps track of. Prefixes zero through seven are usually used only by ProDOS 8 and ProDOS 16 and they can each only hold 64 characters. Prefixes eight through thirty-one are intended for use by GS/OS programs and can each hold about 64 thousand characters! (This is why you occasionally get a "pathname too long" error with older programs. They were written to use prefixes zero to seven!)

Several of these numbered prefixes have specific purposes. For example, prefix zero and prefix eight always contain the pathname of the last folder that you opened with a Standard File dialog. However, most numbered prefixes have no specific use. They are there for application programs to make use of. (HyperStudio, for example, uses one of these prefixes to remember where you keep your clip art, and another to remember where you keep your sound files.)

As I mentioned earlier, there are two other prefixes with very special uses. The first of these is the "boot prefix" and it is specified using an asterisk, like this: "*:". When GS/OS sees this prefix specifier, it substitutes the name of the disk that you booted your computer from. For example, if you start your computer up with a disk called "Boot.Disk", the pathname "*:System" would be the same as the pathname ":Boot.Disk:System".

The other special prefix is called the "at prefix" and it is specified using an "at" symbol, like this: "@:". If you have started up your Apple IIGS from an AppleShare file server, the "at" prefix contains the pathname of your "user folder" on the file server. (For more information on your user folder, see your network administrator.) If you didn't start your IIGS over a network (and you probably didn't), the "at" prefix contains the same information as prefix nine (see the table below for what that is).

So, that's what prefixes are. As for how to use them, generally speaking, you can't. Prefixes were intended to make things easier for programmers by giving them an easy way to reference files. However, if a program does let you type in a pathname to specify a file, you can usually use a prefix number instead of typing out the complete pathname of the file. (However, the better IIGS programs use Standard File instead of forcing you to type pathnames.) Of course, you'll have to know what is stored in that prefix number to really get any use out of it!

Finally, Table 1 gives you a list of the GS/OS prefixes and what's usually kept in them.

Q: In your "Rumors, Wishes & Blatant Lies" column, I read that <fill in your favorite rumor here>. Is this true?

A: A good rule of thumb is that if an item in "Rumors, Wishes & Blatant Lies" contains contact information (i.e. a name, address and/or phone number), it's probably true. (But not always! Whenever we make up contact information, we try to make it as obviously fake as possible.) Beyond that, please remember that the name of the column is "Rumors, Wishes & Blatant Lies," and that we do not otherwise comment on items appearing in the column. (In other words, please don't call or write about the stuff that you see in "Rumors, Wishes & Blatant Lies," because we aren't talking!) GS+

Table 1 - GS/OS Prefixes & Their General Uses

Prefix	General Use
*	The name of the disk you started your computer from.
@:	The pathname of your user folder or the same as prefix nine (see below).
0:	The current working folder. If you only specify a file name, this prefix will be used to generate a complete pathname for the file. This will be empty if the pathname of the work folder is longer than 64 characters.
1:	The pathname of the folder containing the currently running application. This will be empty if that pathname is longer than 64 characters.
2:	*:System:Libs
3 - 7:	These prefixes have no predefined use. They are intended for use by applications. Each of these can hold a pathname up to 64 characters long.
8:	This is the same as prefix zero, except it can hold about 64,000 characters.
9:	This is the same as prefix one, except it can hold about 64,000 characters.
10 - 12:	These prefixes all contain the special designator ".CONSOLE". This ".CONSOLE" designator refers to the keyboard for input and the screen for output. These prefixes can also hold the pathnames of files that will be used for the input, output and error output of a program. These prefixes are usually only used by text-based programs like the ORCA/Shell.
13 - 31:	These prefixes have no predefined use. They are intended for use by applications. Each of these prefixes can hold about 64,000 characters.

GS+ Classifieds

Readers can place an ad in the *GS+* Classifieds for only \$5. This price buys you 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 6) of *GS+* Magazine is May 29, 1995. 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.

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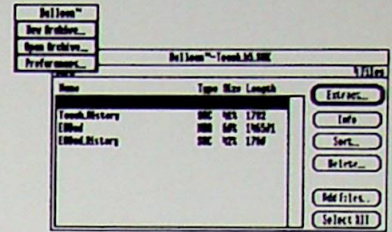
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Balloon™ v2.0

Balloon is a new desk accessory (NDA) that allows you to easily create and maintain NuFX (ShrinkIt) archives on your IIGS. Since Balloon is a NDA, you no longer have to run GS-ShrinkIt to extract files from ShrinkIt archives! So, if you use a desktop telecommunications program, like Spectrum from Seven Hills Software, you can manipulate your ShrinkIt archives while you are still online!



Here are a few of Balloon's features:

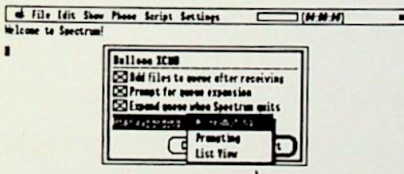
Balloon can extract files from ShrinkIt archives and create new ShrinkIt archives.

Balloon can add/remove files to/from existing ShrinkIt archives.

Balloon recognizes ShrinkIt archives that are enclosed in Binary II, MacBinary and America Online for Macintosh "wrappers."

Balloon lets you have multiple archive and file information windows open at once.

Balloon is Finder friendly! Double-click on a ShrinkIt archive and Balloon opens it automatically! Balloon can also communicate with other system extensions to automatically open files after they are extracted from an archive!



The Balloon package also comes with the Balloon XCMD for Spectrum v2.0. By using this XCMD with Spectrum v2.0, you can have Balloon automatically expand the ShrinkIt archives that you download with Spectrum! You don't even have to open the Balloon new desk accessory!

In addition, the Balloon XCMD for Spectrum v2.0 lets you write Spectrum scripts that give you full access to the Balloon new desk accessory and all its capabilities. For example, you can write a script that will create a new archive and add files to it. Or, you could write a script that would open an existing archive and extract all the files from it to a folder that you specify!

To order Balloon v2.0, send a check or money order for \$25 in U.S. funds to: EGO Systems, P. O. Box 15366, Chattanooga, TN 37415-0366. You can also order with 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. TN residents add 7.75% sales tax. System Requirements: Apple IIGS with System 6.0.1 or later, 2MB of RAM and a hard disk drive. More RAM is *strongly* recommended! Balloon was written by Josef W. Wankerl. Balloon and GS+ Magazine are trademarks of EGO Systems. ShrinkIt is a trademark of Andy Nicholas. Spectrum is a trademark of Seven Hills Software, Inc. America Online is a trademark of America Online, Inc. Apple IIGS & Macintosh are trademarks of Apple Computer, Inc.

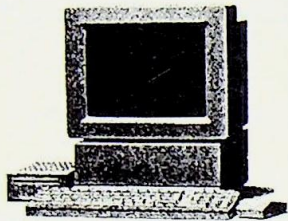


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