

geoWorld

Volume 2 Issue 5 Number 14



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USER HELP

FROM: GeoRon
Have GEOS 64, two 1541's, one 1581, using both 1541's, and waiting to use the 1581. I also use the 1351 mouse in port TWO, and a joystick in port ONE. My printer is a 'Brother M-1109'.

FROM: TT grafix
My setup is a C128, 1351 mouse, 1750(?) REU and 1571 drive. I copy anything I need into the REU and do all my work there. I copy the data file I'm working on to a disk frequently, about every 20 minutes. I almost always use GEOS 64, because I prefer it to 128. The only time I use 128 GEOS is if I absolutely need to see full paint width. I may start using 128 mode more with geoPublish, but I prefer not to.

FROM: GH Wells
I have a C64 with one 1541 and the 1764 expanded to 512K. The 1541 is shadowed and the second drive is a RAM disk. I set up one side of my work disks with an application(s) and everything that must go with it such as the printer driver, fonts and desk accessories. The other side of the work disk contains the deskTop (if there is room) and all documents. When starting a work session, if it is important to protect the work, I copy the application side of the disk into the RAM disk, turn the real disk over and begin work. If I'm just experimenting or want added speed, I copy the document side of the work disk into the RAM disk and

shadow the application side. Of course, it is important before closing the session to copy any modified scraps, albums or documents from the shadowed drive to the other side of the real disk.

FROM: ZORTEK2
Mine is a 128, 1581, 1571, 1351, lcontroller,

Photo manager if I plan on graphics. You get the idea. A work disk is just what you need. You have to experiment to find what you want.

FROM: ErolB
Workdisks:
Usually have desktop, preferences, and a modified quad printer

FROM: Phantom128
My system contains the following hardware:
C=128 ; 1670 ; 1750 ; (1) 1571 ;
(1) 1581 ; Panasonic KX-P1092i w/Xetec SuperGraphics interface ; 1351 ; MJ's "Tim's Timer" ;also : A/B switch to Okidata120.
System and Software :

to reduce clutter and the number of disks needed. All printer drivers, fonts and etceteras are also similarly archived and backed-up. The Oki120 printer is a hold-over from pre-geos days, having been upgraded by the 1092i. The 1092 printer will soon be upgraded with 32k buffer instead of the 5k at present. All disks are configured on Page 1 with: Desktop, RBoot 128, PreferenceMgr, TextMgr, PhotoMgr, Printerdriver, main application and another related file. This allows Page 1 to be uniform throughout all disks.

FROM: Ereth Akbe
My setup will change as soon as Geos 2.0 comes out, but this is what I have now...

2 1541's, 1750 REU (both drives shadowed) C64/GEOS 64, 1351 Mouse, Every GEOS 64 product on the market except GeoDex which I never liked. 'Lbow Plug-in reset button, Tims Timer Real-Time-Clock. More work disks than you can shake a stick at. Each one customized for a specific purpose. 1581 waiting (eagerly!) for GEOS 2.0. Publish requires a bigger drive than a 1541! I would LOVE to have more than 2 fonts in my PUB docs!

How Your system is configured and work disk are set up will make GEOS more productive for You. Here is the results from a recent survey of users on Qlink.

KX-P1091i.
I use the 1581 as Drive A after booting. My work disks are all 1581 and all have at least the desktop and printer driver on them as well as any other applications I may need (GP, WW, Photo Print, etc). I also keep a 1571 disk called "Utilities" handy which has other printer drivers, input drivers, desktop applications, etc. on it which I can run from Drive B as needed. This setup works fine for me, but I do wish I had a 1750!

FROM: Cpt Nathan
Well on the bridge of my ship I got: C-128 running GEOS 128 or GEOS 64 if I am forced too. One 1541, 1571 and a 1750 RAM disk. As for Work disks, I set up only what I need for what I am doing at the time. If I have a GEOWRITE disk I have text manager on it

driver. I also use "datadisks" that have nothing but geowrite data on them. Usually I copy a disk containing Geowrite, Com 10 font, preferences, desktop, and the printer driver to the ramdisk, and work on geowrite docs on the real disk drive.

FROM: PaulU
I run Geos on a 64C, a 1541 (drive A), an unmodified 1764 configured as a RAM 1541 (drive B), and a Star NX-10C. I babble through a 1670.

Work disks are whatever I need...since most of my work is either cataloguing collections or writing compositions, the disks usually contain the relevant application and all the work space I can get. I work in the 1764 as much as possible.

Geos64 (rarely used) w/ Writer's Workshop64
Geos128 with add-ons of : GeoWriteWorkshop128; GeoFile128; GeoPublish64; GeoLabel; GeoSpell.
Also many fonts from various sources. I configure my 1750 as a 1571 and I have a "RamLoaderDisk" to copy to RAM drive most of my working programs, i.e. GeoWrite, Paint, Spell & Dictionary, Text & Photo Managers, LetterHead templates and most-used fonts. I also have dedicated disks for GeoPaint and GeoWrite. GeoFile is used on dedicated disks. GeoPublish is run in 1750 from a master disk containing GeoPublish, Libraries, GeoWrite and Photo & Text Mgrs. All applications files are archived onto 1581 disks



Antigrav Toolkit Notebook

by Randy Winchester



Antigrav Reader Mail

Antigrav Toolkit readers ask some interesting questions about hardware, software, and the future of GEOS. This month, I'll answer some of the mail I've received recently. Owing to the volume of mail received, very little gets edited out, and almost everyone who writes to me can expect a personal reply. Hey, this is a great magazine, isn't it?

Dear Randy:

Since, we have an Apple LaserWriter in the office where I work, I was eager to try out geoLaser with it. So, I purchased a Jameco RS-232C adapter just for this purpose. I packed up my C64, 1541, and a small B&W TV and lugged it all down to work. I hooked everything up as per instructions. I set the LaserWriter at 9600 Baud, and activated geoLaser. It worked beautifully! In just a few seconds the first copy came out and every one after that was fine also.

Since that first successful test, I have used the LaserWriter many times with no problems. Except, the misery of disconnecting my at home set up and lugging it all down to the office.

About that time a friend offered to sell me his SX-64. This was a dream come true! Great, I thought, now using the LaserWriter will be easy!

The first time I brought it in to work and connected it up nothing happened. I used the same RS232 interface and cables as I had before, but nothing happened. I tried 9600 and 1200 baud, still nothing. Thinking that something might be wrong with the SX-64, I brought it to be repaired. I explained my problem, the technician said that sometimes a chip might be old and not work consistently. He ended up replacing CIA#1 and CIA#2. I tried it out again at work, but still nothing happened.

As you may know, when you select a file to be printed geoLaser will go into the disk and then sends the file in the proper format to the LaserWriter. You know the LaserWriter is receiving the file when you see the center light on it flashes on and off. When the flashing stops, there is a short delay and then out comes the printed file. When I used my SX-64 no such flashing occurs.

geoLaser does go into the disk for the file because the red light on the drive goes on, but nothing is sent to the LaserWriter. What do you think the problem could be? geoLaser thinks it is sending the file, but no file is getting through. A friend confirmed that nothing is getting through by connecting it up to a telecommunications checking devise.

My thought is that it is something in the internal design of the SX-64. Some little thing that is different than in a C64. Or is it how geoLaser operates in a SX-64? Or is this the same problem? I would appreciate your help. I am sure there are many owners of SX-64's that would like to use them with a LaserWriter and can't that would like a fix to this problem.

There is another problem that perhaps you could help with. I was told by BSW customer service that a new deskTop will be out soon that will enable a 1581 3.5" drive to be used with GEOS. But the new deskTop will not be able to be used with a 1764 REU and a 1541. I was told that GEOS will never be able to be used with three disks sources. Then I asked if BSW will provide 3.5" boot disks for GEOS to completely replace 1541 drive usage should a user desire to use a 1764 and 1581 exclusively. I was told, "No, the conversion would be too costly for BSW". I think that is dumb!

The only problems with GEOS now are disk space and speed. Both would seem to me to be solved by the 1581. But as it seems to be now, a user will have to choose which they want to use, a 1764 RAM or a 1581, because GEOS will not accommodate both.

Is this the straight story? Will it be possible to eliminate the 1541 and replace it with a 1581? How? When?

Thanks for your time and attention to the above. Hope to hear from you soon.

Dave Simcik
Naperville, IL

Dear Dave,

When I first read your letter, I was at a real loss trying to figure out what the problem might be. The first time I used GEOS with a LaserWriter, it was running on an SX-64.

If your RS-232 interface still works with your C=64, I'm going to hazard a guess that there is something wrong with your SX-64. The SX-64 is mostly compatible with the C=64 except for it's most obvious difference - the portable case into which it is built. I've heard of other people having problems with modems that look like they plug into the SX, but just don't work.

The best solution for you might be to modify the case on your RS-232 interface. You'll need to make sure it can freely fit in the user port slot in the SX case, and make good contact with the connector inside.



Highly Advanced Mutant deskTop



I haven't seen the new deskTop yet. I don't think the folks at BSW's Customer Service line are prepared to answer questions about products that haven't as yet been released. Here's what I've heard

though. (I'm not telling where I heard it!)

The new deskTop will have a new version number. For now, lets call our new deskTop version 4.0-R, R standing for rumor. I think it will support more than two drives, with full support for the 1581, 1571 and 1750 REU. It will be able to do copy and scratch operations on multiple files and retrieve files dropped in the wastebasket. It will include a permanent time/date display, and an easy way of setting it on boot-up without having to run the Preference Manager.

Now some of the things I'm hoping for would be a way of selecting files from the view by name, date, type, or size displays. How about a way to automatically configure a program, say geoWrite, on boot-up? Some simple I/O redirection, like being able to send screen output to the printer? Wait a minute, what about multi-tasking and ... Gee, selfish, aren't I?

*Copy protection is truly regrettable. So far, every protection method I know of has been hacked and cracked before it appears on the market. It doesn't even slow down most dedicated pirates these days, but it does cramp the style of honest users. I have a 1581, and I'd also like to be able to boot from it. Copy protection . . . **JUST SAY NO!***

Dear Randy,

One area of need is to be able to use the GEOS fonts with French accents. Do you know of a programme which allows one to modify fonts and add language accents? There would likely be a good market for something like this in Canada since about a third of all Canadians speak French. Commodore computers are common here.

Keith E. Lohnes
Westbrook, Ontario



Dear Keith,

Look for the new Font Pack Plus from BSW. It should be on your C= dealer's GEOS shelf very soon now. It includes geoFont, a font editor that will make it easy to add any accents, from French to Farsi, to any GEOS font, or even create a whole new font from scratch. You'll probably enjoy some of the new fonts too. Some are pretty classy.

Dear Randy,

As I read your columns in the March and April issues of GEOWORLD, I realized that geoLaser and geoPublaser just send PostScript text files out the user port to the LaserWriter. It seems that it wouldn't be difficult for BSW (or someone else) to alter geoLaser and geoPublaser so they write PostScript files to disk.



It's simple to find LaserWriters hooked up to IBM PCs, such as at print shops. Since programs like Big Blue Reader, by SOGWAP can translate C= files to MS-DOS files, it would be simple to put PostScript output from GEOS on an MS-DOS disk. You could use this disk with an IBM PC hooked to a LaserWriter to print the file.

This is possible now, except for a version of geoLaser/geoPublaser that writes a PostScript file on disk. It seems that an arrangement like this would revolutionize the use of GEOS in desktop publishing. I'm convinced that there are many, many people who need and would buy a program like this.

Mark Reeves
Glendale, CA

Dear Mark,

I agree wholeheartedly! This is something I've wanted to do for a long time now. I've been looking at the code for geoLaser and geoPublaser and don't see why it can't be done, although I haven't had very good luck myself. Since some of the best programming minds in the world read this column, you can probably expect to see a patch file from one of them on QLink any day now!

Next Month . . . More About PostScript

I would like to include your GEOS hints & tips and bug reports in future columns. If you have any brief GEOS tricks, bugs, helpful hints, or whatever, please send them to me. In future columns, I plan on reviewing new GEOS software. I feel that many excellent new programs need more exposure. The major Commodore publications pay little attention to software from independent developers and the public domain. If you are a GEOS programmer I'm interested in hearing from you. I'd enjoy reviewing your work. If you're not a programmer, I'd still like to hear from you. Tell me about the programs you use, or what you would like to see available.

Randy Winchester
P.O. Box 1074
Cambridge, MA 02142

In exchange for material submitted on disk, I'll return a disk of some of the best public domain GEOS software.

Some Experiences using GEOPUBLISH.

Mike Hughes

There is nothing like over committing yourself to learn a program. I am speaking of learning the ropes of *GEOPUBLISH*. When I bought *GEOPUBLISH* I only had one thing in mind that was to do transparencies for Overhead projectors. I learned how to do that rather quickly. I did find out that Berkeley Softworks hasn't developed a proper printer driver for my *Seikosha SL-80AI* this printer is a 24 pin or wire printer that emulates an *Epson LQ-1500*. If anyone knows of a driver anywhere I could sure use it! Anyway back to my story. I friend of mine in Longview, Texas called me about 2 months ago concerning helping him with his 16 page monthly Magazine called "*The Apostolic Messenger*" he had thought of getting someone with a Macintosh. I thought bite your tongue on that one *GEOPUBLISH* could do anything a Mac could do especially since the Mac and Commodore would both use the Laserwriter Plus printer!

This is an example of Enhanced Text. Notice how it catches your attention as you glance through this page.

So I accepted the challenge! The first month, May, was a real drag to say the least. I tried to layout and do the magazine on one big *GEOPUBLISH* file. I would do fine until I got to page 15 or 16 and then it would all break loose. The program would give me a dialogue message of Ripple error can't find file It would take the last file and replace the commodore key symbol with the first letter in the name of the file. The first time I tried this I thought it was me then after 5 times of trying I decided I must have found a limit to *GEOPUBLISH* at least I could blame the limited memory in the C-64. I woundup having to split the May issue into 5 files to get it to work!

Well came time for June's issue this time I thought I would contact all writers and see if by chance they used Commodore 64 computers. Sure enough at least 4 do. Thinking about Roger Ledbetter's luck not having to retype articles I thought I would accept articles on any Commodore word processor. As you know there are only a few WP's listed on *GEOWRITE*'s Text Grabber but to my amazement all Word Processors have worked others I can confirm so far are *Fleet System*, *WordPro 64/128*, and even *Word*

Writer 128 files can be converted. *Fleet System* has to use the file called *Generic 1*, *WordPro 64/128* uses *Generic 1*, and *Word Writer 128* uses *Generic 3* apparently *Generic 3* is for *True ASCII* files. I would like to try and convert others but so far haven't received any other type of files.

Well back to the actual putting together of the June issue of *TAM*. I thought I would get fancy this time and try putting in some Enhanced text areas. This is where you separate or redraw a box and draw a line above and a line below and pick a line of text and print it in Graphic mode at about 16 point type. I found out if I try that that I can only do 3 articles at one time before I get the familiar ripple error. So much for getting fancy! I did find out that this month I was able to do 15 pages of the magazine in one file. Here is how I was able to accomplish that I had to page layout all *GEOWRITE* texts in there proper areas first. Then after that I went back to page 1 and started setting in titles and (continued on Page) lines and page numbers. I found out the less jocking back and forth between page Layout, Page Graphic and Zoom the happier *GEOPUBLISH* was and the less likely I was to get the old familiar Ripple Error message.

As I told Rob Siegel on the telephone I must be about the only Commodore 64 user that takes this machine to it's limit. Berkeley is probably hoping that I will buy a IBM AT or XT clone soon. The way I look at it is why change from something that works. I bought a magazine called *PC Resource* the other day that had a review of Desktop Publishers for the IBM market and I found out that to get a Desktop Publisher for that machine that will come close to *GEOPUBLISH* you would have to spend \$400-\$600! **At \$59.95 that makes *GEOPUBLISH* a real bargain** even for a computer that a lot of people call a toy!

I would like to hear from anyone that has had similar experiences as myself with *GEOPUBLISH*. If you would like a sample of *The Apostolic Messenger* that was layed out with *GEOPUBLISH* write to **TAM Publications Box 2021 Longview, Tx. 75606** request either the *May* or *June* issue.

All things considered *GEOPUBLISH* does a nice job. Once again Berkeley Softworks has scored a hit.

P.O. Box 146
Cleveland, Ms. 38732



1581 BLUES

By Steven
Laughlin



Well you have finally done it. You've gone out and invested in a 1581 disk drive to use with Geos. You rush home anxious to try your new toy, filled with enthusiasm about the power you are about to experience! Then it happens. You try to copy a file to the 1581 and get the message: Error, missing or unformatted disk. Try as you may, the problem doesn't appear to go away. If you have experienced this problem, or if you are planning to purchase a 1581 drive in the future, there are a few things you need to know first.

Back in October of 87, I purchased my 1581 drive. It was an exciting time for me, as I was getting tired of the dozens of 5 1/4" disks lying all over the place. Now I would be able to copy the files to a smaller, sturdier 3 1/2" disk! The first few times I used the drive, it was remarkable! This drive was not only able to store almost 800K of data, but could transfer data at speeds far and away faster than my 1571, even in burst mode! A few days passed, then it started. I tried to load a file I had saved on the 1581, and got the message: Error reading disk. My first thought was that maybe I had a bad disk. I tried other disks, and they seemed o.k. so I just went on.

Soon after, my Geos128 upgrade disk arrived! Now I had the chance to really see what the 1581 could do. I set up my system with the 1571 as drive "A" and the 1581 as drive "B". I loaded Geos128 and then inserted a disk in the 1581 drive. This was to be the first of many times that I would see the message: Error missing or unformatted disk! Now rather than continue with this tale, I'm going to let you in on what went wrong. First of all, I didn't know that you must have a disk in the 1581 drive when you first boot the system. Second the disk must be formatted by Geos! Talk about your catch 22! How could I format a disk in a drive that didn't seem to know that the

drive even existed?

Now before you all begin clamoring for BSW's heads, let me state here and now, if it were not for all the help I got from Geos Steve, I would have dumped the 1581 and just kept using the 1571. For a problem that turned out to be more the fault of Commodore, BSW was very helpful in trying to help me solve this problem. After about 4 to 5 months of searching on Q-link and other sources, I found out that there were 3 problems with the 1581 drive itself! Apparently someone at Commodore had decided to install a WD1770 controller chip in the drive. The 1581 was designed using a 1772, so this created all sorts of problems. Eventually Commodore posted a message on Q about this problem and promised that the problem would be taken care of under warranty by authorized Commodore service centers. Apparently they forgot to tell there service centers about it though. I wound up getting the chip and doing the replacement myself!

I do not advise anyone trying this themselves as the circuit board in the 1581 is very fragile. One mistake can cost you the entire drive (Apparently service centers are now aware of this problem and are now doing the repair free). Now I'm not saying BSW didn't have a small part in my problem. There was the Geos128 with the lower case "z" problem. It also had trouble saving the configure file to the system disk. Also the 1.4 configure didn't work as well as it should have. Now I have the new 1.5 configure and the new Geos128 system disk, and the 1581 works great!

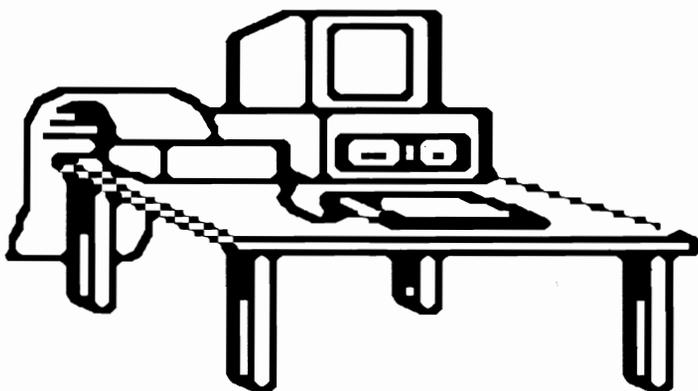
What all this is leading to is this: If you are considering the purchase of a 1581 drive, don't let the early problems in the drive scare you away. The early drives that had the wrong chip are no longer on the shelves, and the new 1.5 configure file allows the 1581 to work perfectly with

Geos. If you are not sure whether or not the 1581 drive you have or are planning to get has any of these problems, there are 2 ways of finding out. First check on Q-link for the file "1581.DIAG". This program runs a test to see if the J1 jumper is installed and

whether the controller chip is a 1770 or 1772. If it says J1 installed and the chip is 1772, you have the correct version drive.

On the other hand, if you get the message "J1 open, or 1770 installed" take the drive either to where you bought it for an exchange, or to a service

center in your area for a free repair. The other way to check for this problem requires opening the case which I recommend having done by a service center to preserve your warranty. Now after these problems are fixed, now how to get the 128 to work with Geos128? If you have the Geos128 with the lower case "z" problem, STOP! This version of Geos128 will not work correctly with the 1581! Get the disks replaced one at a time, and only use the 1581 if absolutely necessary as data may be corrupted. Secondly, after getting the new version of Geos128, make sure it has version 1.5 of the configure file on it. If the



desktop has version 1.4, download the "128 configure 1.5" file from Q-link. There are 2 so make sure you download the newest version. (NOTE: I incorrectly marked the wrong one of these files as corrupt on Q. The older one is the bad file)

Once you have the file, and use the 128

system disk, you need to put it on your boot disks. To do this, move the 1.4 configure file to the border. Once it is there, you just need to move it to the trash can. With this file off, just copy the 1.5 configure into its place.

Now before we go on, there is a misconception I would like to clear up here and now. Many people seem to think that the configure file was designed to allow you to change your system configuration at will. Now in some cases this will work O.K., but not so with the 1581! If at any time you tell

the system that the 1581 is not there, the 1581 gets rather upset! It decides to give you constant Missing or unformatted disk errors and will not allow you to move files on a 1581 disk off the border. The purpose of the configure file started off rather innocently. The idea is to let you tell the system how many drives you have and



what types they are. Unfortunately with the 1541, 1571, 1581, and REU, people can have many different system configurations. If you have say a 1571 and a REU only, no problem! 1571 drive A, Ram 1571 drive B. But if you also have a real second 1571, what do you do? Well the configure file will allow you to switch between a real 1571 and the REU. The only time it seems to be a problem is when a 1581 is involved (the price of large capacity). Once you set the configure file showing a 1581, I recommend that you leave it that way. If you want to switch between a 1571 and a REU, this usually works fine. But never tell the system the 1581 isn't there. If you have any questions, leave E-Mail on Q-Link to StevenL14.

Mystic Jim
2388 Grape
Denver CO
80207



We're just about caught up with orders...phew! There are a couple of exceptions, and here are the reasons:

We're still having trouble getting printing done. We're using our present printing company on a temporary basis until permanent arrangements came be made with the printer of our choice; we'll be keeping the work within the "family" in the future. If you're still waiting for printing, we hope you can be patient just a little while more. I know it's frustrating for you, and we're doing our best to get this stuff done.

There is one silver lining for those who've already ordered printed docs and clipart albums: you'll be getting much more than advertised, and at a much lower price. We've found that it's costing us a lot more than we've been charging for this, so the price is going up for orders received after June 15; we'll lose money at the new price, too, but it won't come as close to bankrupting us.

We've hired someone to sysop the BBS, and we hope that'll get things working a bit better. We've had the hard drive fixed, too, and ordered the newest operating system for it; it should run faster and more reliably...heck, the e-mail even seems to be working.

GEOTRONIX is still under development because we're still adding features to be certain that everyone gets the most out of it, no matter what printer or etching system you're using; it seems that many dot-matrix printers just don't give dense enough printouts for direct transparencies, and some printers give unusual print dimensions, so new transfer techniques and complete new sets of component albums and grids have had to be created. GEOTRONIX was originally conceived to work only with thermal transfer printers. We're up to ten double-sided disks, now. However, some of you folks have been waiting for a long time, so we're locking the system in where it is now; it should work for everybody, and we're mailing now.

There's a great silver lining here, too: everybody who has ordered GEOTRONIX I by July 1 will get it at the low introductory price, with free upgrades. The upgrade will really be something special; so special, we're calling it GEOTRONIX II. It will include a transparency printing service for a nominal fee, for perfect artwork, eliminating the need for touch-ups and all of those complex transfer, lift-it or reversal film processes. Perfect circuits with up to .003 inch precision will be

available, with size reductions or increases in steps of 1%. I think you circuit board creators will be crazy about this system, and it'll be worth the wait.

Now for some truly great news: GEOTERM-X is here! (The "X" is for "extra", and "excellent".) The Master has solved the complexities that stumped the rest, and created a truly fantastic program with all of the features you expect in a first-rate terminal program; too many to list here. You may see other versions of GEOS terminal programs, but this one is only available here, and it's the one that really works!

Master Blaster is at sea right now (literally), but he'll be back September 1, and we'll be mailing GEOTERM-X before October 1. Only the folks who read GEOWORLD, or are shareware members can pre-order GEOTERM-X at an introductory price: the price goes up October 1. No pre-orders will be accepted after that date, so DON'T WAIT!

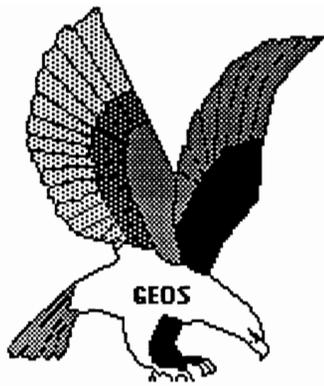
Speaking of money; we started this operation on a voluntary contribution basis, and that worked fine for a while, but things have changed. For a lot of reasons, we're going to have to tighten up our procedures. We've been depositing checks as they came in, and made folks wait for their stuff. We've been sending lots of stuff to folks who said they were sending payment that never came. We've gotten lots of bad checks. These things aren't fair to anybody, especially all of you, and they must change. We spend more on shareware than we receive, and when payments don't come through, it hurts all of you, and the difference comes out of our pockets. From now on, we won't deposit any checks until shipments are ready to go, and we won't ship until we have payments, except for pre-orders. Gosh, I wish we could do this shareware with no money involved, but I guess the world doesn't work that way.

Well, folks, it looks like I'll be taking a short vacation soon, in the hospital for a bit of cut, edit, and paste. I've been putting this stuff off until everything was caught up here, but I'm told it can't wait any longer. Hey!, there's nothing to worry about, but prayers and crossed fingers can't hurt, and I know my friends wish me well, as always. I love all of you.

Best.

Mystic Jim's Shareware Update

May, 1988 Volume 2, Number 5



^m NEW PROGRAMS Disk #1 a,b

ⁿ INTRO PROGRAMS Disk #2 a,b

This disk is sent to new acquaintances on request. On it are samples of the kinds of programs found on our shareware disks: Bootstrap 1.2, 1.3: Make bootable workdisks. Input Drivers: 15 kinds, for joystick, lightpens, KoalaPads, Super Sketch, and more. Graphics convertors: for Commodore Hi-res and multi-color images; including KoalaPaint, Peripheral Vision, etc.; to GEOS.

Desk Accessories: More than a dozen kinds, including screen dumps, icon editors, Auto Preference, etc.

GEOPaint grids and helpers.

ⁿ MISCELLANEOUS UTILITIES: Disk #2c.

More than two dozen new Desk Accessories and utilities.

ⁿ FONTS: Disk #3 a,b,c

Nearly 60 fonts.

^c FONTASTIC: Disk #3e \$6.95, \$4.95

Font Grabber. Converts any Commodore character set, including Font Master, into GEOS 10 point fonts.

Font IDX. Read or edit the ID numbers of your fonts.

Font Data. Enter data statements representing character sets in memory for Grabbing.

Grabbed Fonts. Thirty-six new ten-point fonts.

HOWARD'S FONTS: Disk #3f.

12 of Howard Fernald's Pro fonts..

^m FONT PRINT FILES Disk #3g

Print samples of all BSW and Mystic fonts. (also available in print: see printing section)

^m PROGRAMMING: Disk #4a.

More than two dozen GEOS programming utilities of interest to programmers, including fixes for BSW's GEOS Tech guide.

^m TECH MANUAL: Disk #4b.

Files containing Alex Boyce's Tech Manual, and the programs necessary for printing the manual. (also available in printed form. See printing section 9.

^m PROGRAMMING128: Disk #4c.

Programs and files relating to GEOS128, GEOScope and other GEOS Utilities.

^m MYSTIC BBS TERMINALS: Disk #5a,b.

These terminal programs are all compatible

with our BBS.

Master Blaster. Very large buffer and good speed. Multiple character sets available.

Fast Term. Very "user friendly" terminal, with all features.

MultiTerm: Excellent program featuring modem nibbler for whole disk transfer.

^m LIBRARY UTILITIES: Disk #5c.

Programs for linking and dissolving groups of programs for up- and downloading.

Library 7, 8.6

Arcaid, including self-dissolving ARC.

Lynx IX.

SQ V2. and USQ V2. for compacting and uncompacting files.

^m BBS INSTRUCTIONS: Disk #5d.

Documentation and instructions for our Bulletin Board. (available in printed form. See printing section.)

^m GRAPHICS CONVERTS: Disk #6a, b.

Conversions for all of the following graphics images from each to the other and back:

KoalaPad, PrintShop, NewsRoom, PrintMaster, Flexidraw, Doodle, MacIntosh, Peripheral Vision, Edumate, RLE, FontMaster, etc, etc....

PShop X2: Double size of PrintShop graphics. GEOPaint forms and Grids.

Interceptor: A printer driver that "prints" to disk as a GEOPaint file. Add color or pixel-edit a GEOWRITE, GEOPublish, or any other printout. (by Master Blaster)

^m PRINTER DRIVERS: Disk #7a.

More than 50 printer drivers, including Mills' double and quad-strike versions.

^m PARA-PRINT DRIVERS: Disk #7b.

More than 50 parallel printer cable drivers. These special drivers are necessary for printing with parallel cables.

(lists of both kinds of drivers are available in printed form of Mystic Jim's Documentation. (see printing section.)

^m REAL TIME CLOCK UTILS: Disk #8a.

For use with our Tim's Timer RTC

Read RTC: Automatically (or manually) reads time from RTC into GEOS.

Write RTC: Set time and date in RTC.

Show Time 1.2, 1.3: Permanently display time in GEOS. (128 version coming soon.)

Reminder: At powerup of GEOS, reminds of special dates recorded in Calendar. (version for new E-Type RTCs, and for GEOS128, coming soon.)

Plans: Instructions for building your own RTC, or for internal installation.

^m Satellite BBS: Disk #9a,b.

Run a Mystic Jim's Bulletin Board

in your area; programs must be tailored to your system and equipment. Write or call us.

^m GAMES: Disk #10a.

GEOS Based games and puzzles; just a few, now, but more coming!

Solo Poker: A neat game of Solitaire.

C I R C E: A game of international intrigue.

Culture: Cells live and die in the culture medium of GEOS.

ⁿ Randy's Roundup: Disk R.

Utilities by Randy Winchester.

^m HACK'N GEOS: Disk #11a.

GEOHacker 2.0: New foolproof version strips copy-protection from all the latest GEOS

programs, including GEOS128 versions. Read and edit serial numbers. Un-install disks, so

you can try again after a faulty installation. (if you're into software piracy, please don't use our stuff; BSW is entitled to every nickel paid

for their hard work and talent.)

Disk Digger:

Diskcompare: Compare any disk to any other to see the result of any operation.

GEOSMon: Go to monitor from any place in GEOS, and return.

GEOThreader: Step through job loops

Disk Doctor64

Disk Doctor 128

^m BASIC-8: One two-sided C128 Disk

To be used only with BASIC-8, the fantastic ultra-hires color graphics language for the C128, by Lou Wallace.

BASIC-Write, BASIC-Calc, and fonts, drivers, brushes, etc.

^c CLIP ART: Over two dozen 2-sided disks.

*N = non-members, M=members, C= added cost.



Mystic Jim Enchants

the Eagle

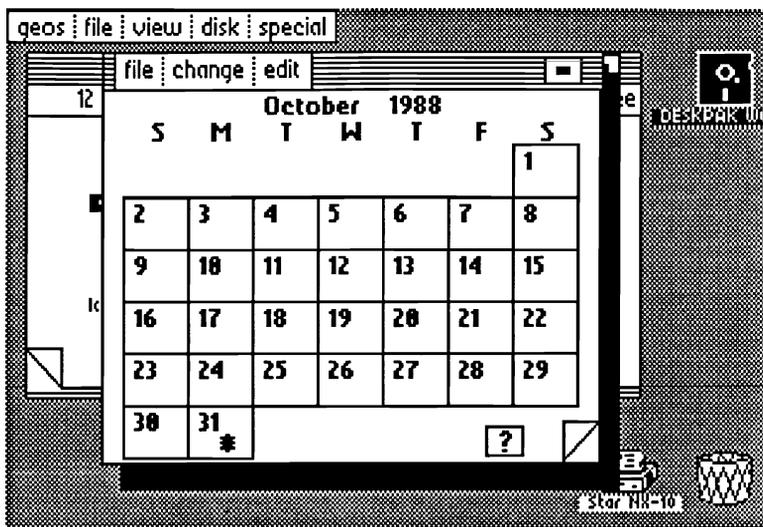
GEOS GEMS Useful Utilities for GEOS

By Peter T. Hughes

DESKPACK Plus for only \$29.95

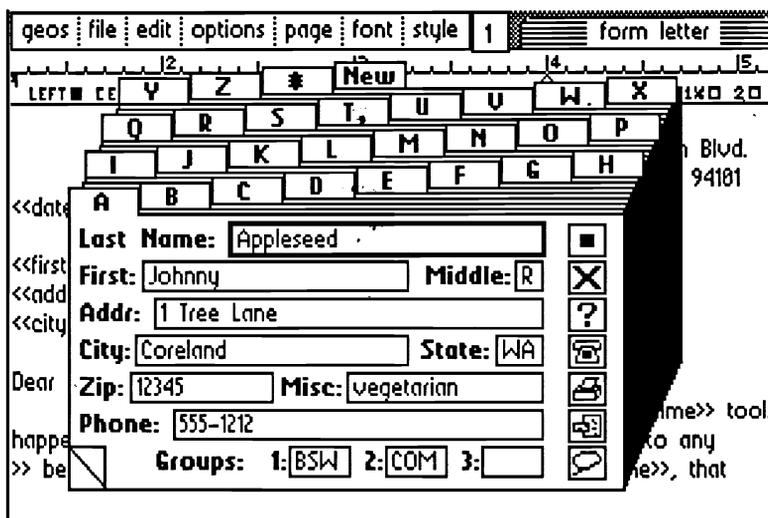
Calendar

The Calendar is a desk accessory that is a combination calendar and datebook. One can record upcoming events by marking the calendar and writing notes on each date. One can ask and it lists those dates on which appointments appear. It has been enhanced to enable one to move or copy information to and from other files. One can copy the calendar as a photo scrap and copy and paste text to and from note pad pages. This is great for duplicating the same information for certain days of the month or every month. Also one might want to use the photo scrap and notes in a write document to print or for a newsletter.



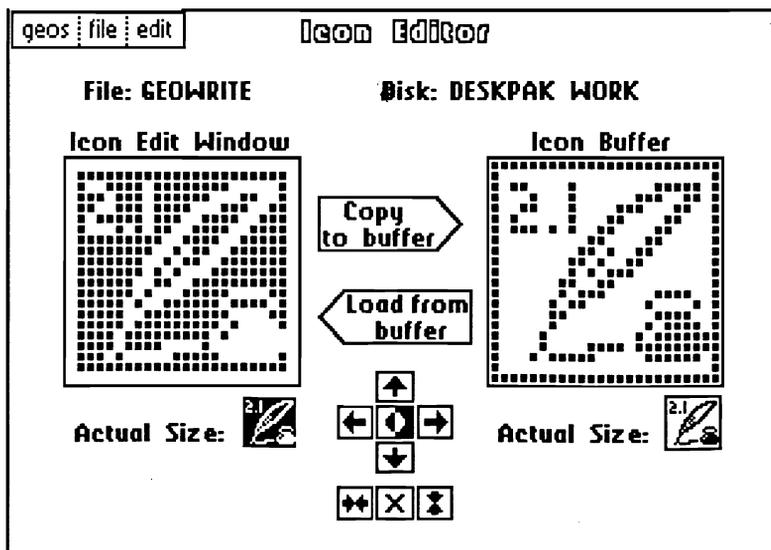
GeoDex

GeoDex is a desk accessory that is an electronic "card file" with which one can access names, addresses, phone numbers and related information instantly. One can organize alphabetically or by group. Searches can be performed. One entry can appear in up to three separate groupings. Phone lists and two kinds of address labels can be printed. Autodialing is also supported for those people with 1670 modems. It has been updated to enable one to copy a record as an address label into a text scrap. This is great for quickly inserting an address into a letter in Geowrite.



Icon Editor

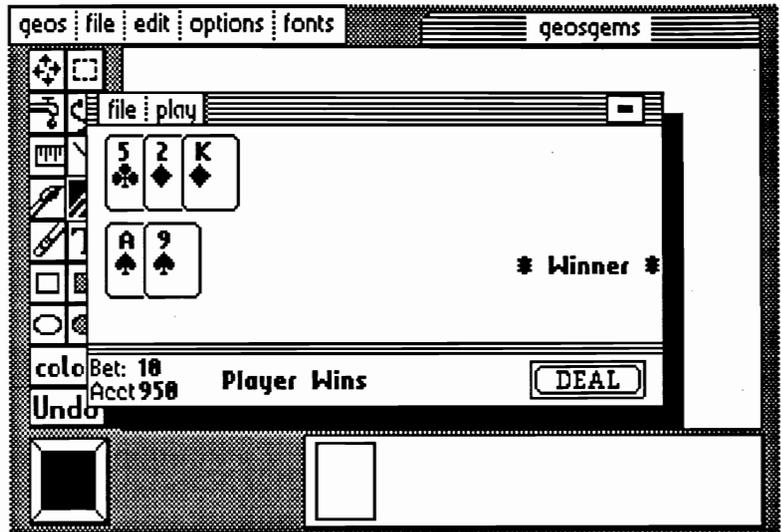
The Icon Editor is an application for editing existing file icons or creating complete originals. Icons show graphically and quickly what a file contains. The Icon Editor converts non-GEOS files to the special GEOS format, and lets one customize the icons on those files. It has been expanded to enable one to copy and paste photo scraps to and from the Icon Editor. One can use the graphics tools of GeoPaint such as line, box, circle and pattern fills in creating an icon. Also one can copy icons from the Icon Editor to GeoWrite documents or for use later in their GeoProgrammer files.



DESKPACK Plus is for GEOS 64 and GEOS 128 in 40 and 80 column modes.

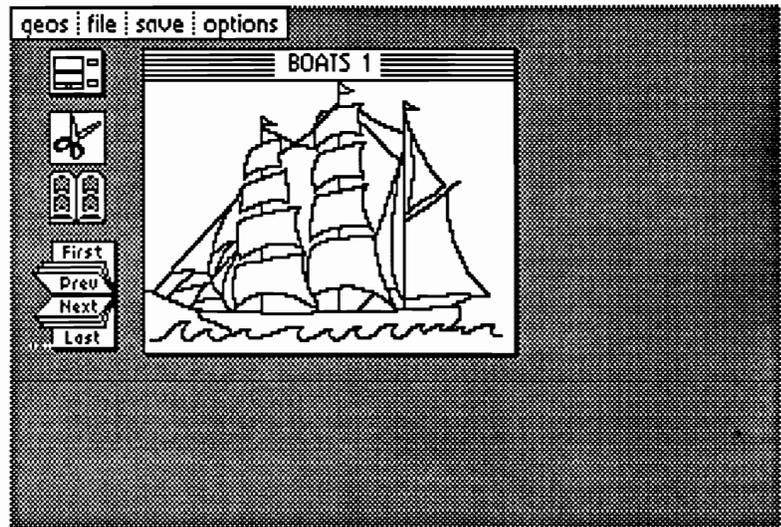
Blackjack

Blackjack is a desk accessory which simulates the popular game of the same name. It is the player against the dealer. One can place a bet and check his hand. The bet can be raised or left the same. One can double down and take a hit or stay. One enhancement is that one can alter one's bet by using the mouse to click on numbers or just type it in from the keyboard. By clicking the numbers one can use the mouse continuously. This desk accessory is a nice diversion from painting in GeoPaint or writing in GeoWrite. One can pop up Blackjack, play a while and resume back into the file he was working on. The cards fly in 80 column mode of GEOS 128. One can hear the sounds of cards being shuffled and dealt.



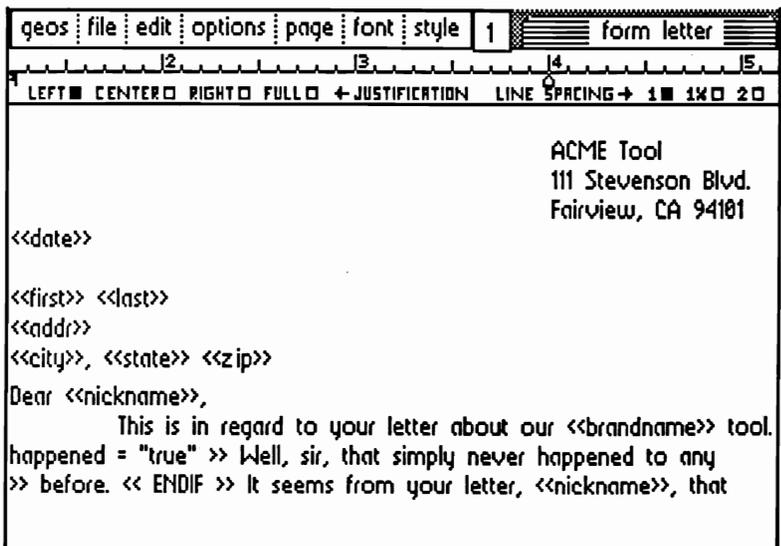
Graphics Grabber

Graphics Grabber is an application that one can use to transport hundreds of clip art graphics from Print Shop, PrintMaster and Newsroom for use with GeoPaint, GeoWrite and GeoPublish. One can copy single graphics or groups of graphics. The graphics can be transferred directly into photo albums. Print Shop and PrintMaster are small graphics which are nice for letterheads or small illustrations. PrintMaster graphics are very well drawn and shaded and look three-dimensional. Newsroom graphics are usually large line drawings and are better for large illustrations.



GeoMerge

GeoMerge is an application and mail merge program enabling one to print out customized form letters. Used with GeoDex, GeoMerge gives one a way to incorporate GeoDex records with a merge form document. One can merge groups of addresses from GeoDex. One can create personalized form letters with GeoWrite. Inventory, price tags and data lists can be produced with geoFile. GeoMerge has powerful and sophisticated IF and IF ELSE conditional statements in the merge forms. One can pick the right information to put where one wants it. GeoMerge is great for preparing those repetitive form letters.



Make GEOS work for you.

Introducing BeckerBASIC — Now you can write BASIC applications to work with GEOS.

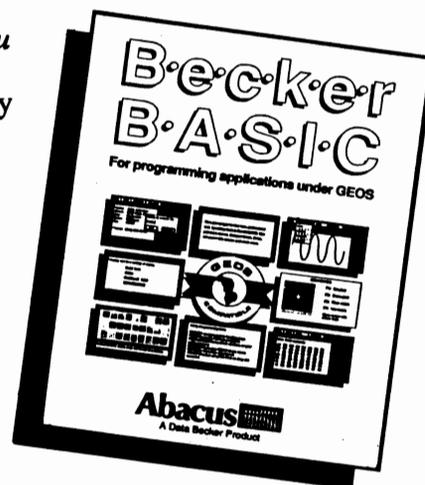
BeckerBASIC-64 is an extension to BASIC 2.0 allowing you to program your own spectacular GEOS applications. If you understand BASIC, you now have a tool for flexible and efficient programming.

When you program with BeckerBASIC-64 you have 273 commands to support all aspects of programming, error handling, hi-res graphics, sound, and GEOS support.

BeckerBASIC-64's *Pull-down Menu Construction Set* and *Dialog Construction Set* allow you to easily design your own icons, pull down menus, and dialog boxes. You can distribute your BeckerBASIC applications royalty free.

BeckerBASIC-64 is precisely what you need for writing efficient GEOS applications.

The suggested retail price of BeckerBASIC-64 is \$49.95.



To find the best programmers among you, we're holding a contest with \$25,000 in prizes!

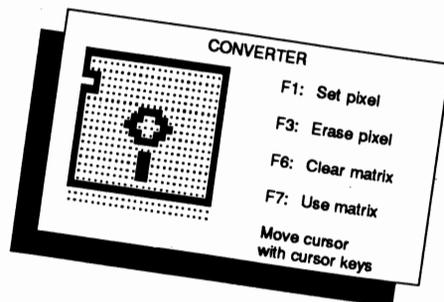
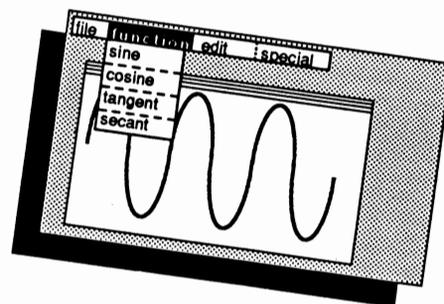
Here's How...

Rules:

1. Write your entries using BeckerBASIC to run under GEOS. All entries must be submitted on a disk
2. You can submit multiple entries provided that all entries fit on one disk.
3. All entries must be accompanied by the official entry form inside the BeckerBASIC package. Reproductions of the entry form are not acceptable.
4. All entries must be received by August 31, 1988
5. Winners will be announced by October 31, 1988.

List of prizes:

- 1st: \$1000.00 cash (1 winner)
- 2nd: Your choice of \$500 worth of Abacus books and software (2 winners)
- 3rd: Your choice of \$400 worth of Abacus books and software (2 winners)
- 4th: Your choice of \$300 worth of Abacus books and software (2 winners)
- 5th: the complete Abacus C-64 library - \$227 value (100 winners)

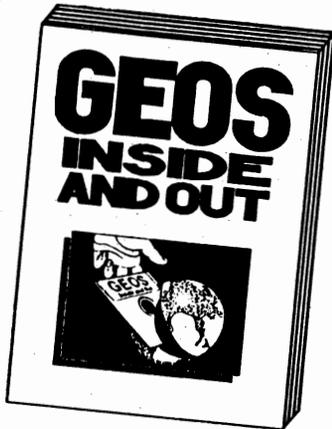


You can order direct by phone with your VISA, American Express or MasterCard, by calling 1-800-451-4319. Or by mail using the coupon on the next page

Abacus 

To learn more about GEOS...

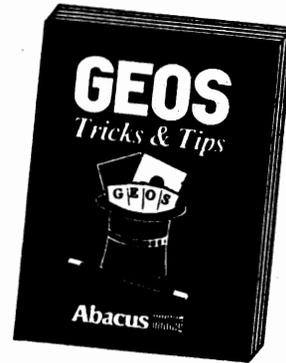
...read our Bestselling books.



GEOS INSIDE & OUT

This book will give you a quick introduction to using GEOS by covering the essentials of geoWrite, geoPaint, and GEOS accessories. Also includes a useful Tips and Tricks section, how to create custom GEOS windows for your programs, and GEOS file format details. Also includes FILEMASTER, a fantastic utility to convert your own '64 programs to GEOS format.

suggested retail price: \$19.95



GEOS TRICKS & TIPS

This is an invaluable resource for information about GEOS shortcuts, applications, and internals. Its tricks & tips will help you set up form letters with geoWrite, write your own error messages, Turbo cursor, GEOS warm starts from BASIC, saving your current screen to disk, and many more. Also includes CONVERTER, a utility to convert word processor files into geoWrite format; FONTEDIT, to create your own fonts; and EDMON to explore the internals of GEOS

suggested retail price: \$16.95



Order either (or both) of the above book titles and receive the optional program disk at no charge. (a \$14.95 value)

This disk lists the programs detailed in the book and will save you countless hours of typing them in and saving them.

Abacus 

Yes, please send me:

BeckerBASIC at \$49.95 _____
 GEOS Inside & Out \$19.95 (w/disk) _____
 GEOS Tricks & Tips \$16.95 (w/disk) _____
 Shipping & handling \$4.00 _____
 MI residents add 4% sales tax _____
TOTAL _____

Name _____
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Grand Rapids, MI 49508 Dept. GW-7

Mapping the 1541/71 Geos Disk

By Master Blaster

DIRECTORY FORMAT

Each sector in the directory (track #18 on a 1541/71) is composed of eight directory entries. Each page on the DeskTop is an image of one sector on the disk. Each directory entry is 32 bytes long. There are two unused bytes before each entry that correspond to the track and sector link before the first entry (this keeps the math consistent). The formula for computing an entry's offset (to the filetype - not the null bytes) within a sector is: $(\text{entry} \# * 32) + 2$. Remember that the first entry is zero not one. The following is the format of each directory entry:

00/\$00

Commodore Filetype

Geos files are type USER. Normally the high byte is set. If not then the file was not closed properly (a 'splat' file). If bit 6 is set then the file is locked. These are the normal (unlocked) values:

129 - Sequential	130 - Program
131 - User	132 - Relative

01-02/\$01-\$02

File Link

These bytes are the track and sector respectively of the first sector of the file. If the file is VLIR structure then these will point to the index sector of the file.

03-18/\$03-\$12

FileName

These bytes contain the filename padded with shifted spaces [CHR\$(160)] out to 16 characters.

19-20/\$13-\$14

Header Link

These bytes are the track and sector respectively of the file's Information Sector (also called the File Header). Since these locations would normally hold a relative file's side sector pointers, relative files are not possible with Geos.

21/\$15

Structure

This byte indicates the Geos file structure as follows:

0 - SEQUENTIAL	1 - VLIR.
----------------	-----------

Note that a sequential structure is not the same thing as a C= sequential file.

22/\$16

Geos FileType

This byte holds the Geos Filetype. Currently there are 16 valid filetypes (maximum - it depends on the Kernal Version you are running):

00 - Not a Geos File	08 - Font File
01 - C64 Basic	09 - Printer driver
02 - C64 Assembler	10 - Input Driver
03 - C64 Data File	11 - Disk Driver (128 only?)
04 - Geos System File	12 - System Boot File

05 - Desk Accessory

13 - Temporary (V1.3 only)

06 - Application.

14 - Auto-Execute (V1.3 only)

07 - Appl.Data File

15 - C128 Input Driver

The temporary filetype is used for swapfiles. Any file of this type will be deleted when the disk is opened by the DeskTop. This feature is not supported in Geos Kernal V1.2 (swapfiles are System Files). In V1.2 Auto-Execute files are treated just like Application Files. Input Drivers are located in a different place in the 128 Geos. Therefore they are not compatible with the 64 versions so a new filetype was created for them.

23-25/\$17-19

Date

Year, month, and day the file was last modified. The year is the current year minus 1900.

26-27/\$1A-\$1B

Time

Hour and minute the file was last modified in Military (24 hour) format.

28-29/\$1C-\$1D

Size

Number of blocks in file, low byte first, including the Info sector.

BAM FORMAT

For the most part the BAM (Block Allocation Map) of the disk remains unchanged. There are however several important additions. Note that these values are for the 1541. All offsets are from the beginning of the sector :

171-172/\$AB-\$AC

OPD Link

Track and sector of the Off Page Directory Sector. This sector has an identical format to a regular directory Sector. This block is used to hold the files that are placed on the DeskTop's border. If you validate a Geos disk using the regular C64 command you will free up this sector. The next time data is written to the disk this sector will be overwritten. This is the usual cause of the infamous 'I2' error when opening a disk from the DeskTop. Geos thinks there are directory entries in this sector and when it tries to follow the header pointer in order to retrieve the icon information the pointer indicates an illegal track and so you get this error (I2 is an Illegal Track or Sector Error).

173-188/\$AD-\$BC

Geos ID string

To be exact 'GEOS format Vx.x'. Geos looks for this string when a disk is opened. If it is found then the disk is assumed to be in Geos format. You can convert a disk back to regular C= format by erasing this string (changing a single byte will do it) and zeroing the OPD link.

format allows an application to store both the ID and the point size in just two bytes.

Data File Headers:

97-116/\$61-\$74

Parent Disk

This string contains the name of the disk that contained the application or Desk Accessory that created the file. Currently it is unused by any version of the Geos Kernals.

117-136/\$75-\$88

Parent Application

This is filename of the Application or Desk Accessory that created the file. It is used for two purposes: first, this is the string that is checked when a data file is double-clicked on the DeskTop. If it contains a valid string then the disk will be searched for an file with this name. Second it allows an application to ignore all data files except for the ones that it has created.

137-159/\$89-\$9F

Data Information

This area can be used by an Application for whatever it chooses. For instance, geoWrite stores the printer driver that was used to format the text, the page length of the text, and a few other things it needs to know about the file here.

All Other Headers:

97-116/\$61-\$74

Authors Name

This area is used to hold the author of the program. Note that this is the same area that is used for the Parent Disk string in Data Files. So that you can't have both at the same time.

117-159/\$75-9F

Currently Unused

This area should be all nulls in most cases. The Data Information field (see above) can probably be used safely if desired.

160-255/\$A0-\$FF

Info String

This is the text string that you can modify/view from the DeskTop when you click on INFO. It must be null terminated. If the field is empty there must be a null in the first position.

Geos File Structures

Geos has two basic file structures: SEQuential and Variable Length Index Records. SEQ files are just like regular C-64 files, the directory entry points to the first sector of the file. Thereafter the first two bytes of each sector point to the next sectors track and sector respectively. The last sector of the file is indicated by a track number of zero. In this case the next byte will contain the number of valid bytes in the sector.

VLIR structures are unique to Geos. In this case the directory entry will point to a single sector called the files Index Sector. It has a track and sector link of 0,255. This sector contains 127 word length (2 byte) entries numbered 0 to 126. If an entry contains 0,0 then it has never been used. If an entry contains 0,255 then it is considered to be empty. Otherwise the entry will contain a track and sector pointer. What it points to depends on the application. Usually it points to a chain of sectors linked the same way a SEQ file is. You can think of VLIR files as a group of SEQ files joined together by the Index Sector.

*Put these **geoDisk II** icons to work for you!*

Can't open ?



Disk Repair
A fix for sick disks

Safety first!



Disk Guard
Keeps GEOS disks safe

Clowning around . . .



bigTop 128
Just for fun!

Which fonts did he use?



Font Finder
For geoWrite documents

Now you can easily cut and paste icons.



Icons -> Album
Saves icons in a Photo Album



4X Icons
Save expanded (this size) icons in a Photo Album

Oops!



TrashPicker
Find lost treasures in the wastebasket

Get your disks in order.



geoInfo
Prints a directory with all GEOS information

geoDisk II is now available. A 15 page laser printed manual includes a comprehensive list of available GEOS fonts. geoDisk II is only \$12.95. Also available: Randy's geoDisk, featuring SEQ->Text Scrap V2.0, the ultimate text conversion tool. Randy's geoDisk is only \$15. Get both geoDisks for \$22.50 and save.

Overseas orders please include \$3 for shipping. To order, send check or money orders to:



Turning the GEOS world on it's side!

Antigrav Toolkit

P.O.Box 1074, Cambridge, MA 02142



Photo-Etching Circuit Boards Using GEOS

by Mystic Jim

Every electronic project for computers will, somewhere along the line, require a custom circuit board. As you probably know, a "printed" circuit board, or PC, is not actually printed, but starts out as a thin sheet of fibreglas clad on one or both sides with copper; the copper representing the circuit is protected in some way, while the undesired material is etched away, leaving only the circuit.

Unless you only wish to make one simple PC, the best protectant is the "positive" photo-resist type, wherein a photo-sensitive coating is applied to the copper by spraying, like paint, or by applying a sheet, like tape. The sensitized board is then protected with a "positive transparency" and exposed to light and developed to remove the protective coating only in the areas that are to be etched away in a solution of ferric chloride.

The materials and instructions for the photo-etch process are commonly available, and won't be discussed further here. This article explains the design and construction of the "positive" using GEOS. If you've ever tried to make a transparency by traditional methods, such as cut-and-paste or decals-and-tape, you know how difficult and frustrating that can be; if you've attempted to make double-sided PCs in these ways, you know that it's almost impossible.

With GEOS, it's easy to design and print your transparency. GEOPaint and the Photo Manager allow you to manipulate circuit components, and GEOS "cards" are nominally 1/10" by 1/10", and circuit components, such as DIP chips, are designed on 1/10" centers.

GEO-TRONIX makes the process of creating transparencies fun and easy.

GEOTRONIX consists of:

1. Instruction manual; explanations of the entire photo-etch process, with lists of suppliers. Comprehensive instructions for GEO-TRONIX. Full-size printouts of all components and grids, with locations on disk, and within albums.

2. Grids. GEOPaint pages with 1/10" cross-hatching for most printers. Grids for high-resolution Okimate 20 drivers.

3. Component Albums. Several hundred individual components for most printers and for high-resolution Okimate20.

4. Circuits. Full-size layouts for most commonly available experimenters circuit boards.

5. Printer drivers; component fonts; electronic symbol fonts; programs and utilities.

6. Sample Mylar-tractor, supplies.

USING GEOTRONIX

After roughly designing your circuit and getting the components, format an empty GEOS workdisk and copy GEOPAINT, Photo Manager, Desktop and driver for your printer.

The most critical decision you must make is choosing the proper grid on which to design your circuit. You must use the one that prints out as close to 1/10" X 1/10" grids as possible using your printer and driver. The instruction manual will explain the choices, but you should try actually printing out the best choices. Some grids are more convenient to use, but with imperfect precision: it all depends on your requirements for your circuit. Copy the grid you choose to your workdisk. Rename it to fit your circuit.

Using the indices in the instruction manual, find the Component Albums that hold each of your circuit components. The component albums are keyed to the grids. Copy each of the albums holding the components you have chosen.

Now open the Photo Manager on your work disk, and create a new album to hold only the components you wish to use. Copy those components from the Component Albums to your new album. When you've done this, trash the other Components Albums from your workdisk, because they won't be needed again.

If you wish to imbed comments or schematics in your circuit, copy the necessary fonts to your workdisk.

DESIGN YOUR CIRCUIT

Now you're ready to create your circuit.

Open the GEOPAINT GRID on your workdisk. Draw a rough rectangle about the size required for your circuit. Work in even blocks so it's easier to move scraps around. Dimensions can always be changed later. In fact, the great thing about using GEOS is you can change things around as much as you like to create the ideal design without losing anything. However, it's a good idea to copy the current circuit into your Photo Album at regular intervals, in case you screw things up later (like we do).

For each of your components, go to the Photo Manager, copy the component into a Photo Scrap, then paste the component into your circuit in approximately the right place. For exact placement, select COLOR OFF from the OPTIONS menu, then move the component into place.

Now select PIXEL EDIT from OPTIONS, and draw in the traces of your circuit, and erase unwanted grid lines. Clean up the circuit and change it around until it's just like you want it.

When that's done, it's time to print the circuit out ON PAPER. Put your components in their places on the paper circuit, pushing the pins through the paper to make sure everything fits. Now crumple up the paper, and re-open your grid and fix the mistakes: do this as often as necessary until everything really works. If you want to duplicate the circuit a number of times, copy it into a Scrap, then paste it in your grid as often as you wish. Print the finished artwork on paper again, until that's perfect.

PRINTING ON MYLAR

GEOTRONIX was initially designed to use OKIMATE 10 or OKIMATE 20 printers because they give a waxy, dense and sharp printout, and we've designed special drivers for the OKIMATE 20 that achieve .006" resolution and triple-strike. Most other printers also give good results, especially using special ribbons such as the kind used to make t-shirt transfers, and Mills' multi-strike drivers (included).

Transparencies are printed on transparent or translucent Mylar; best results are achieved with one matte-finish side, and one glossy side, with printing done on the matte side. However, tractor-feed Mylar is not available, and since tractor-feed gives best results, it's necessary to make your own tractor-feed Mylar:

TRACTOR-FEED MYLAR

1. Place three connected sheets of regular tractor-feed paper on a flat surface
2. Place an 8 1/2 " X 11" sheet of Mylar, matte-side down, exactly over the middle sheet of paper.
3. Scotch tape all four edges of the Mylar to the adjacent paper, being carefull not to overlap the pinfeed holes on the sides.
4. Turn the paper/Mylar over, and place it on the flat surface; carefully strip away the center sheet of paper, leaving the Mylar.
5. Put the leading piece of paper (either end) in the printer, with the taped side inside, so that printing is done on the matte-side.

DOUBLE-SIDED PC BOARDS

Traditional methods for creating PCs are not suited for double-sided boards, and most experts strongly discourage this. With GEOS, it's fairly simple. It's necessary to make a transparency for each side of the PC. Choose at least two index points in common on top and bottom, and place "targets" at these points for later reference. The accuracy inherent in GEOS transparencies provides a precise correlation from side one to side two.

Just before applying the sensitizer, very thoroughly clean both sides of a sheet of double-clad board: use steel-wool and powdered cleanser, until water "sheets" all over. Don't touch the board after this, except at the edges. If the copper isn't clean the sentizer won't stick well. Stand the PC on edge to dry completely.

Now apply the sensitizer to side one. In a low-light area, stand the PC on edge, and spray on sensitizer like spray paint, with sweeping motions. Spray heavily enough that the material "sheets", and runs to the bottom. Soak off just the excess with an absorbant cloth, and immediately place the PC horizontally in a warm oven to self-level the sensitizer and dry.

Repeat the process for the other side, being careful not to damage the coating in an important area on the opposite side. In each case, place supports under the PC in a place that will be etched away in the finished PC, so any damage won't matter.

Expose the first side: Place the PC on a flat surface, slightly raised to avoid damage to the other side, but without allowing light to reach it. Place the first transparency on the PC, and cover with glass. Expose to a UV light source.

Remove the first transparency, and place the PC in a developer bath to remove exposed areas of sensitizer, then run under cold water to "set" the remaining sensitizer, especially on the unexposed side. Now etch the unwanted copper from the first side of the PC in a bath of ferric chloride. The bottom side should remain unetched.

Thoroughly clean both sides of the PC, as before. Drill small holes through the "targets" on side one of the transparency, then align the targets on the second transparency; push pins through these points on the transparency, if desired.

Remove the bottom transparency, and repeat the etching process exactly as before, protecting side one from further etching.

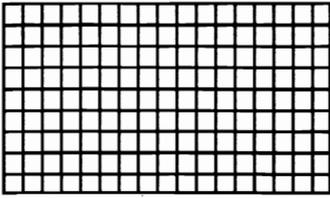
That's a pretty fast run-through. If you're inexperienced at photo-etching, study the instructions that come with the etching supplies. Practice on a simple, relatively unimportant, circuit until you have it down pat.

With GEOS, and a little practice, even a novice can soon be creating the most complex circuits; and even experts will find that GEOS makes the toughest job a lot easier. Hey, that's the kind of thing that makes us loove GEOS, right?

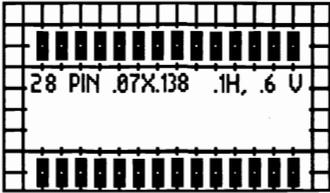
Best.

GEO-TRONIX EXAMPLE A

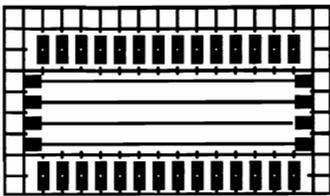
(From GEO-TRONIX Instruction Manual)



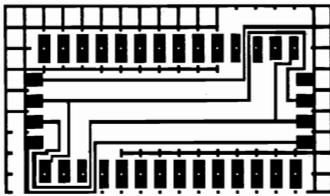
1. Select the proper layout grid for your printer and application. There are layout grids for 64, 72, and 80 DPI printers, with or without verticle parsing.



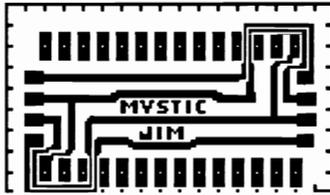
2. Locate the desired component in the Components Index, then go to the indicated Components Album and copy the pattern into a Photo Scrap. Paste the scrap into your layout grid at the desired location. Once the pattern has been pasted into the layout grid, it can be moved by pixels to the exact position required.



3. Add connector pads for 9 pin "D" sockets. Draw preliminary traces connecting male to female sockets.

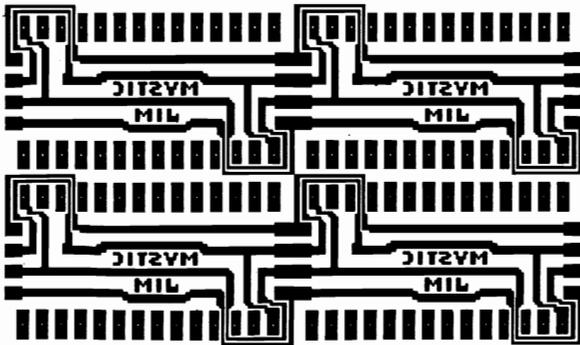


4. Draw a tentative design that makes the necessary connections for your circuit, then try different layouts and make changes until your circuit design is just the way you want it. All of the tools of GEOPAINT are available to you, including X-Y mirror, rotation, and duplication.: UNDO and RECOVER tend to be especially useful in this regard.



5. Clean up un-needed pixels, and thicken traces where possible for best conduction. (heck, might as well personalize your design. YOU drew it, right?) This is a good time to print out your design on paper to make sure everything fits.

6. OOPS! Got it backwards. Well, that's easy to fix: just mirror-X it. Now, make as many copies as you want, and print 'em on Mylar.



This circuit is used in our Tim's Timer RTC

Quick Flyers

By Susan Puhn-Lamb

Most geoPublishers probably have one or more of the print shop-type programs that produce cards, flyers, signs, letterheads and banners. They make it so easy to "knock out" a quick sign or flyer since there are only a few pre-set options to choose from. If you want something more elaborate with larger art, different fonts, and a large amount of copy, geoPublish is the versatile answer. I recently discovered that geoPublish can also be used to quickly produce a flyer that is much more creative than those done on the other software.

I devised a system that enables me to create a simple bold flyer in minutes using one GEOS art clip and one font. Rather than using a complex full-page border, a drawing window-size border or graphic can be enlarged to full-page size. Experiment with different clips, viewing the pixel effect in zoom display. Some pieces may look better smoothed or put in a pattern.

When you first copy the graphic to a photo scrap, line up the text box on the outside edges. Move the box to the upper left corner before copying or cutting. When you transfer this bitmap to geoPublish, place the cross-hair as close to the upper left corner as possible. Click on the re-size box and drag the box to the lower right corner

for maximum full-page enlargement.

A large headline font or Mega font is best for this job, but satisfactory results can be achieved with 24 or 36 point fonts. Type out your large headline and try different sizes until it fits within the border. In preview mode you can quickly change sizes, edit copy or move the type around until it looks just right. I set the copy on the page first, then re-size the box so it is tight around the text. This way when I move the blanked-out box, it is easier to center.

Using geoPublish formatting tools greatly speeds up the process of page layout. In the attributes box you can easily try out different formats such as flush right instead of centering each line. The type can be set in a pattern, bold, italic, smoothed, etc. Again, *preview display* shows how the whole page layout will look and *zoom display* will show how good or bad the pixel effect is, with or without smoothing. Of course, the larger the graphics and fonts are, the better they will look enlarged.

One obvious application for producing quick flyers for other than personal use is a custom-design, while-you-wait service. I often have requests for this service from small business owners on a tight budget.

If you want to use a font that is too large for geoPublish, take a little extra time, set it in geoPaint and transfer to geoPublish, enlarging as necessary. Of course you can use other artwork, fonts and more copy. This method is just a way to produce a good-looking flyer on the spur of the moment with the same ease of the print shop-type programs.

The samples below are reductions of actual full-page (8 1/2" by 11") flyers. Each took only 15 to 30 minutes from start to printed copy. Each uses one window-size art clip and one large font. The lower right flyer uses 24 point *Tolman*, which gives a hand-lettered effect. The headline on the opposite page is also a 24 point font, enlarged and smoothed.

When enlarging graphics with geoPublish or any other computer program, there is a problem of distortion. That is why I emphasize that you experiment with different clips to evaluate the results each one produces. If your small clip is in the approximate height-to-width ratio of the full page, distortion will be minimal.

Some time ago, several users asked about enlarging clip art proportionately, especially with graphics that use diagonals. I tried time after time to figure out a formula to do this, but without a ruler in geoPublish, it was just trial and error to hit on the right ratio.

Then all of a sudden the answer was right there on the screen in the attributes box. I had been using "Stretched & scaled to fit" since I was fitting the art into a space of certain dimensions. For the correct ratio, use "Scaled to fit." The graphic may not fill the whole space one way or the other, but at least it will be the same proportion as the original. Each time I use geoPublish, I seem to discover more of its useful and powerful features.

All of the graphics and fonts (except the main headline) are available on my *Graphic Idea Files Volume One*, and *Headline Fonts One*. For information write:

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More graphics and fonts are soon to be released.



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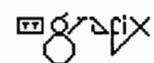
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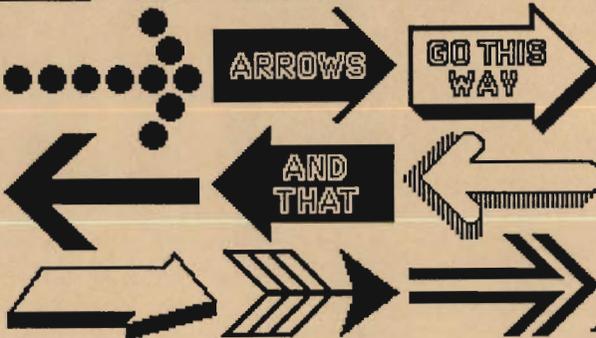
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Press Stop!

Hello Everyone, I hope You have enjoyed Issue #14 of GEOWORLD! Well the rumors are over! BSW has officially announced 2.0 at the Consumer Electronics Show held in Chicago and posted the following message in the "GEOS NEWS" section on Qlink. It reveals a lot of things that will make Commodore users of GEOS jump with Joy! Remember, You saw it first in GEOWORLD. Of course We will keep You informed on the latest developments of 2.0 as they become available and will have a full review in a future issue.

I would like to thank Everyone at BSW for developing 2.0 and the People who Beta tested it on their own time (even though the non-disclosure agreement wouldn't permit giving out information). The GEOS world is going to be a better place for all of Us!

Roger Ledbetter

GEOS NEWS - 6/9/88

It's finally here! Berkeley Softworks will be coming out with the GEOS 2.0. It will be released in mid-July. Enhanced features of the desktop will support two disk drives as well as a RAM Expansion Unit. The 1581,1571 is also supported as a second drive.

Our geoWrite 2.1 includes such features as; expanded margins to a full 8-inches, left, right, center and full justification, single, 1-1/2, double spacing option, full page preview, 10 Fonts and 7 styles multiple point sizes. Last but not least it imports graphics from geoPaint, data from geoFile and calculations from geoCalc.

To prevent you from having misspelled words in your document, we have included geoSpell which features; scans the 38,000 word plus geoDictionary 38% faster than before. It will create, edit and update personal dictionaries, and will preview the dictionary while in spell checking mode.

Our new geoPaint now includes: Creating charts and diagrams for full page images up to 8-1/2 by 11". You can also select 16 colors, 14 graphic tools, 32 brush shapes and 30 painting patterns. This also includes paint drivers which allows you to spruce up word processing documents. It converts geoWrite and geoPaint documents and then creates multiple columns or adds graphics such as borders, headlines,

logos and other designs.

Another Desk Accessory in GEOS is the pop-up alarm, a handy utility that gives you a chiming alarm clock.

If you were wondering if you can use non-GEOS word-processing applications with GEOS, guess again, the answer is yes. TEXT GRABBER allows you to import document such as Paper Clip, Easy Script, Speed Script and Word-Writer into the GEOS Environment.

geoMerge also has been added which allows you to use the mail-merge program.

More features such as; geoLaser which produces near typeset quality output with the Apple Laser Writer. Disk turbo which speeds disk access 5 to 7 times on reads and writes. There are 31 driver files that support over 70 popular printers. Most of all, you will be able to get draft, NLQ and high resolution printer option.

Just a little added note: Upgrade orders normally take from 4-6 weeks. If by the 8th week you have not received or heard anything from us, please leave your name, address, date of purchase, and products purchased and how product was order, i.e. 800 number or via Q-LINK in E-Mail. Also state if you have been billed.

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