

# GEO WORLD

February, 1988

Volume 2 issue 2

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# GEO WORLD

The definitive magazine about GEOS

February  
1988

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## As the world GEOS by...

Welcome to the February issue of GEOWORLD! As usual, things have been very busy around here and I will try to explain some of the recent developments. The January issue was the biggest so far and I hope Everyone enjoyed it. To handle the extra postage expense of a larger GEOWORLD, We have changed to pre sort bulk mail. What this means is that some areas of the country will get GEOWORLD slower than first class mail. We had to make this change to continue to increase the size and quality without raising the subscription price.

I would like to take this time to thank the new contributors to GEOWORLD. Over the last few months We have had many articles submitted. We pay \$10 per page or will give a 1 year subscription for material that is published. Anyone is invited to submit material.

Last month W.C. Coleman offered some advice in the User Help column on how to repair the text grabber included with GEOpublish. After many phone calls and much discussion it was decided that there was in fact a problem but not everyone had it! Please note that Bills fix is for GEOS 1.2 users only. The text grabber forms are stored different than 1.3 GEOS (application data).

InCider Magazine, which is devoted to the Apple computer, has done a feature on GEOS in the March issue. Much of the info We passed along last month is explained and is recommended for readers if they are interested in Apple GEOS.

The latest news at press time is that BSW is running a contest for GEOS users. The contest is for Programmers and desktop publishers and there will be a total of 45 winners selected. Cash prizes up to \$1,000 cash as well as complete GEOS libraries and laser printing credits will go to winners in 1st through 3rd places. Next month we will have full details of the contest, You can also read about it in Run and Gazzette magazine. A total of over \$40,000 worth of prizes will be awarded. Stay tuned.

That's it from My corner, I hope You will enjoy this issue and please keep the ideas and suggestions coming in!

Roger Ledbetter

## USER HELP

### **Installing GEOS Nathan Williams**

If a program can be installed and run on the 40 col. screen of 128 GEOS it may(note MAY) be installed if all 1571 drives are in 1541 mode!!! Note that real old 64 prg. Like the original Writer's Workshop or DESKPACK will NOT install. At least it will not for me...But no harm can be done by trying! If it does you have no problem and if it don't then look to my article for aid. Hope this will clarify things.

### **SUBJ: Problem solved FROM: Bladeruner**

Hi just wanted to report the solution to a problem I was having with geocalc 128 , just in case anyone else was having the same problem. When I opened a Geocalc 64 document many of the cells did not display their contents. Instead they displayed the following (###).Well I found out that for some reason when you open a Geocalc 64 document under the 128 version , it made the cells much narrower. When I clicked on the display option and made the cells wider , the problem disappeared and the cells displayed their true information.

### **SUBJ: Handy Hint FROM: Doc Ed Sr**

When you get the dialog box demanding that you reinsert a disk whose icon is on the desktop, you can bypass this by opening the drive door and clicking on "OK". This causes the desktop to close the disk. (You get a dialog box saying "missing or unformatted disk". Click

"OK" again.)

This is the only way to recover from a disk error I:2 due to a bad disk (without crashing), since the desktop will keep asking you to insert the disk but be unable to read it.

### **SUBJ: The Paint Overlay driver... FROM: GH Wells**

...takes each page that is printed from any application and "prints" it to a geoPaint document (which it creates if necessary). So here is how to do it. First delete any file called OVERLAY. Make sure the current printer driver is your Paint OVERLAY. "Print" your geoPaint document containing your borders. This will go into another geoPaint document called OVERLAY. Next "print" one page of your geoWrite document (again with your Paint OVERLAY driver active). Rename the geoPaint document called OVERLAY to NAME1 (or whatever). Repeat ALL these steps for each page of your geoWrite document (but change each OVERLAY to a different name). Now switch to your real printer driver and print each of the geoPaint documents that you renamed. You can of course do more painting on them before printing. After you get the hang of it, you will see shortcuts to speed things up.

# geoCOPE:

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When it's time to start programming in GEOS, **geoCOPE** is the right place to start. Because no comparably-priced assembler/editor package gives you as many features. Or an easier way to use them. If you already use GEOS, you already know how to use **geoCOPE**. It shares all the great GEOS qualities. Like comprehensive, pull-down menus. Icons, and point-and-click operation.

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- Header pseudo-ops.

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# Inside



## INSIDE GEOS #10 BLASTER

## MASTER

This month we are going to discuss what is probably one of the most misunderstood areas of Geos: Disk Routines. We'll spend three or four issues on this topic. This time I'm going to start out with an overview of the Turbo DOS and then some of the load routines. One thing you should understand before we get started: this discussion will apply specifically to the two C-64 versions (V1.2 and V1.3). The C-128 version has a few additional routines and some minor differences but for the most part everything I discuss will apply to all three versions. I will point out any differences as they occur. For the time being we will concentrate on Sequential structured files. In a later issue we will be discussing VLIR files in depth.

### TURBO DOS OVERVIEW

The Turbo DOS used in Geos allows rapid transfer of information to and from the disk. For the first time it becomes possible to load in sections of a program as they are needed without requiring a message on the screen telling the user to go get a cup of coffee (or two or three)! The Turbo itself is loaded into the drive's RAM when Geos is booted. There are routines in Geos to turn it on, turn it off, remove it, and reinstall it in the drive. However, once the Turbo is in the drive it is assumed to be resident unless the application specifically calls a routine to remove it. This is why you should never turn the drive off unless the application specifically tells you to (such as when adding another drive from the DeskTop). If you do you may as well shut the computer off because the system will hang up the first time it tries to access the disk.

One disadvantage of this system is that it is much more computer intensive than in the normal C-DOS. This is due to the fact that the drive has only a limited amount of RAM available (2K). Validating the disk, scratching files, in fact most of the things that are normally done from within the drive now have to be controlled from within the computer. This eats up quite a bit of the already scarce RAM in the computer. In fact the drive routines are the largest section in the Kernel.

The disk routines contained in the jump table are fairly easy to use, they just take a bit of getting used to. One thing that you must understand up front: everything is done by the block. You can't send individual bytes to the drive like you can in C-DOS (of course the higher level routines like GetFile and SaveFile make this rather transparent). Therefore you can't easily do things like appending to a file. It's possible to do, and not all that hard, but you have to do it by hand. There are a couple of new routines in V1.3 and above that allow you to do things like retrieving a single directory entry or just getting the track and sector link of a sector. This makes certain operations faster (finding the last block in a file for instance).

The first routines we will examine are the highest level ones.

They do not require that you know the structure of the disk. Therefore we will defer that discussion until later. First we'll look at one that should always be called first when your application initializes and then the routines to call when a new disk is opened or the drive is changed.

**NEWDISK (\$C1E1)** - You don't need to pass this routine anything. What it does is set up for a new disk, i.e. read the BAM into the drives memory. The reason you should always call it when your application first starts running is that in the early versions of Geos the turbo in the drive would keep the disk spinning indefinitely after an application was loaded into the computer. Calling this routine will stop the disk so it doesn't run forever.

**SETDEVICE (\$C2B0)** - This routine is used to open a disk. Just load the accumulator with the new device number and call this routine. This routine will tell the current drive to disable it's Turbo and then the new drive will activate it's own turbo (it will be sent to the drive if necessary). If you wish to use the printer simply pass this routine a device #4.

**OPENDISK (\$C2A1)** - This routine will initialize the disk in the current drive. Nothing needs to be passed to this routine but SetDevice must first be called to log the drive in. Upon return R5 will contain a pointer to the name of the disk. CurDirHead (\$8200) will contain a copy of the Directory Header (BAM). IsGeos (\$848B) will be non-zero if the disk is a Geos Disk else it will be zero.

BSW's R.G. states that R5 will contain both a pointer to the disk name and a pointer to the Directory header. Obviously this is quite impossible! Actually R4 will contain a pointer to the name of the disk also. The difference between this pointer and the one in R5 is that R4 points to the name contained in the Directory Header and R5 points to where it has been copied to for future reference. No pointer is returned to the Directory Header; however this will always be at \$8200 (you could also stuff a zero into the low byte of R4 to get the starting address).

When you need to switch to a different drive or after using the printer you should first call SetDevice and then call OpenDisk. SetDevice is not necessary if you are just changing disks in the same drive. Use OpenFile liberally within your programs. This will keep the user out of trouble if he changes disks. If you don't and a disk is swapped out you run the risk of the BAM being copied back to the wrong disk.

The next two routines are the highest level load and save routines. These are the most powerful and require the least amount of set up and application intervention.

**GETFILES (\$C208)** - This is the highest level load routine. It will decide how to load the file depending on the filetype of the file. Note that it will not load Font files nor (V1.2 anyway) the non-Geos types (Not\_Geos, Basic, Assembly, and Data). To load these types of files you have to use the lower level routines which

will be discussed later. All you need to pass to this routine is a pointer to the name of the file wish to load (null terminated) in R6. Several other variables may have significance depending on what you are doing:

R0L - Bit 0 will be zero if the file should be loaded at the address contained in the Header Block of the file. If this bit is set then the file will be loaded at the address contained in R7. Bits 7 and 6 are passed to an application by the Kernal. You will normally only read this bits. If bit 7 is set then a data file for your application was double-clicked. Bit 6 will be set if the user selects a data file and then selects PRINT. In either of these cases R2 will contain a pointer to the name of the disk that contains a file; R3 will contain a pointer to the name of the data file itself.

R10L - This variable is only used when loading Desk Accessories. Bit 7 will be set if the calling application uses the backround buffer for graphics. Bit 6 is for color information. If these bits are clear the DA should not fool with the backround buffer (some applications use this space for code).

If you use this routine to load Data files remember to call SetDevice and OpenDisk prior to calling it. Upon return the X register will be zero if no errors were encountered. Remember that the DeskTop uses this routine to load your application so all of the above variables will be available to it.

**SAVEFILE (\$C1ED)** - This is the highest level save routine. Only two things need to be passed to it: R9 should hold a pointer to the header block for the file and R10L should hold the number of the directory page to start looking for a hole to place the file's entry on. If the page requested in R10L is full then the succeeding pages will be checked. The search will not go backward however so care is needed to prevent Full Directory errors when there is actually still room.

The header block that R9 points to should be an exact duplicate of the one you wish written to the disk. SaveFile will get all the information about the file from there. The first two bytes of a header block are normally 0,255. However SaveFile expects these two bytes to point to the null terminated filename for the file. The 0,255 will replace this pointer before the header is written to the disk.

If you wish to create an empty VLIR file simply set the starting address in the header to 0 and the ending address to -1 (\$FFFF). No data sectors will be allocated, however, an empty index sector will be created for the file.

As with all disk routines, SetDevice and Opdisk must be called to log in the disk. The X register will return zero if all went well or an error code if there was a problem This holds true for all disk routines so from now on I'll assume you know it.

Now that that we know how to load and save files we can begin discussing some of the lower level routines. First however we should cover some of the disk specific memory locations/buffers within the computer. Most of these areas apply to all versions of the kernal. Some however only apply to versions V1.3 and up.

diskBlfBuf (\$8000) - 256 bytes. General purpose disk buffer.  
fileHeader (\$8100) - 256 bytes. Holds a file's header block.

curDirHead (\$8200) - 256 bytes. Holds the current disk's Directory header (BAM).  
fileTrScTab (\$8300) - 256 bytes. Holds a Track and Sector Chain  
dirEntBuf (\$8400) - 30 bytes. Holds a directory entry.  
drACurDkNm (\$841E) - Name of the disk in drive A. First 16 bytes are the name and the next two contain the disk ID number.  
drBCurDkNm (\$8430) - Same as above but for drive B.  
curDrive (\$8489) - Currently active drive #.  
diskOpenFlag (\$848A) - \$FF if a drive is open.  
isGeos (\$848B) - \$FF if current disk is a Geos Disk.  
interleave (\$848C) - Sector interleave.  
numDrives (\$848D) - Number of drives available.  
driveTypes (\$848E) - 4 bytes. Type of drive (1 byte for each drive).  
0 = no drive at this address.  
1 = 1541 2 = 1571 3 = 1581  
If bit 7 is set then drive is a RAM drive.  
If bit 6 is set then drive is a shadow drive.  
turboFlags (\$8492) - 4 bytes. The state of the Turbo DOS in drive.  
drive.  
Bit 7 - If set then Turbo is resident in drive.  
Bit 6 - If set then Turbo is running in drive.

The following addresses apply only to Kernals V1.3 and up:  
driveData (\$88BF) - 4 bytes. One byte reserved for each drive's driver. May be used by the driver for any purpose it requires.  
curType (\$88C6) - 4 bytes. A copy of driveType  
drCCurDkNm (\$88DC) - 18 bytes. Name and ID of disk in drive C.  
drDCurDkNm (\$88EE) - 18 bytes. Name and ID of disk in drive D.  
dir2Head (\$8900) - 256 bytes. Use to hold a second disk header block for higher capacity drives such as the 1571/81.

Now that we know where everything is let's take a look at some of the other disk routines available. We'll start with the ones that aid in locating files on the disk:

**FINDFTYPES (\$C23B)** - This routine is the one used by the Dialog box function DBGETFILES. It will search the disk for a particular Geos filetype and return a list of all the ones found. You must pass the following variables:

R7H - Maximum number of filenames to find.  
R6 - Pointer to a buffer which will hold the filenames. It must be at least R7H\*17 bytes long (16 bytes for each name plus a null terminator).  
R7L - The Geos filetype to search for.  
R10 - Pointer to a null terminated permanent name string or 0,0 if all occurrences of the filetype (that will fit in the buffer) are desired.

R10 is used to limit the search to only those files that have a permanent name string (which is contained in the header of the file -- we'll be discussing header's in more detail later on) that match

Continued on Page 18

# Create New Effects with Paint Drivers

by James Hastings-Trew (J Hastings)

Included in the geoWrite workshop package is an interesting file called PAINT DRIVERS. This is an application that creates two new printer drivers on your geoWrite disk - **Paint Overlay**, and **Paint Pages**. These drivers are designated by the GEOS system as printer drivers, but they have little to do with your printer. Instead, these drivers create geoPaint files out of your geoWrite or geoPublish printouts. This is to provide access to OVERLAY techniques for those users who do not have access to or the need for laser printing, but would still like to create columnar output from GEOS.

In this article I would like to give some tips for using these drivers, and introduce you to a couple of neat tricks that you can perform with them.

First of all, this is the proper technique for creating a two column output from geoWrite: You must set the margins of your pages up so that if they were printed onto the same sheet of paper, they would not overlap. The center of the page in a geoWrite document is at 4.2 inches. You could set up your margins so that page 1 left margin is at 0.2 inches (the default) and the right margin is at 4.1 inches. Then on page 2, you would set your left margin at 4.3 inches, and the right margin at 8.2 inches (the default). This would provide a spacing of 0.2 inches between the columns. If your project consists of more than 1 page (two geoWrite pages) you would need to set up page 3 the same as page 1, and page 4 the same as page 2, and so on. You would use 2 geoWrite pages for each actual page you want (for two columns.) Once you have your margins all set up, you then, from the deskTop, pull down the **geos** menu, and select **select printer**. If you have the desk accessory **choose printer** available from Mystic Jim's GEOS Accessories you can perform this step while still in geoWrite. You want to select **Paint Overlay** as your printer driver. Once this is done, you simply print out your page by selecting the document icon and dragging it to the printer icon on your deskTop.

When the document is finished 'printing', the result will be a geoPaint file which contains BOTH page 1, and page 2, OVERLAYED on top of each other. Since you set up the margins so that the text would not overlap, this gives the appearance of columns. You can then use geoPaint to dress up the file, by adding lines, borders, graphics, etc. Be sure to **RENAME** the file! **Paint Overlay** will always choose the same name when it creates a geoPaint file - "OVERLAY", and it will lock up your system if you try to print out any additional pages and a geoPaint file called OVERLAY is already on your disk. This is an important point to remember.

If your project is more than 1 page long, you will have to use a different technique. When the print dialog box appears, to print out the first page you would tell it to print from page 1 to page 2. To print the next page, you would tell it to print from page 3 to page 4, and so on. Be sure to rename the OVERLAY geoPaint file in between printing out each set of overlaid pages.

What Berkeley did not tell you is that text is not the only thing that you can overlay with this technique. With a little planning and imagination, you can also use geoWrite to provide an easy solution to one of the problems with geoPaint - no transparent paste option. You can also perform special effects such as masking.

In the illustration on the next page, I show how to use a step by step method to create a 'mask' so that you can cut out one graphic shape out of another, or inlay a texture region into another graphic area. These operations are currently impossible using geoPaint alone.

First of all you need to plan out your moves. Use geoPaint in 40 column

mode, and with a light colour, mark out the area that you are going to be working with. This will help you to be consistent when making photo scraps of the graphics. This is important, as you will not have any guides to go by when you are in geoWrite. Using cyan, mark out a rectangular region that you will be working in. Using the selection box, copy this region to a photo scrap. Use this technique: place the cross hair just UNDER the top of your cyan region, and just to the RIGHT of the left hand edge. Click, and pull the crosshair to just ABOVE the bottom of the region, and just to the LEFT of the right hand side. When you click again, the box will jump out to exactly the right size. Use this technique everytime you select a region when you use this overlay technique. It will guarantee that every region you grab will be exactly the same size.

If the area you are working with is small enough, paste this copy of your work region to another area of the same geoPaint document. Now you are ready to work. In the example on the following page I wanted to 'fill' the s-shaped outline with the graphic texture you see in step 2. Ordinarily you would have to spend hours trying to achieve such an effect. Create the outline you want to fill in one of your cyan work regions (Step 1 in the example), and then create another texture, picture or whatever in the other cyan work region (Step 2 in the example). When you are finished, use the technique above to make photo scraps of each region and paste them into a photo album with the photo manager.

Now that you have your raw materials created and saved, you must construct the mask. To do this, choose the solid black fill pattern, and fill the INSIDE of your outline shape. This defines where the texture will appear. Everything that is black in this area will receive the texture when you overlay the two images. This is an important concept to remember. Now, use the selection box and reverse each graphic region - you are in effect making negatives of your images. Cut these and paste them into a photo album. You are ready for the first overlay step.

Exit geoPaint, and create a new geoWrite document. On page 1, paste in the negative you made of your mask (Step 3 in the example) and on page 2, paste in the negative you made of your texture (Step 4 in the example). Make sure that **Paint Overlay** is your selected printer, and print out the file from page 1 to page 2. You will end up with a geoPaint file called OVERLAY on your disk, and when you open it, you will find that your negative mask, and your negative texture have been overlaid on top of each other (Step 5 in the example). Carefully select this area (your cyan work area will be invisible but you should be able to cut exactly the right size by following the black edges of the negative mask), reverse, and then cut this area and paste it into a photo scrap (Step 6 in the example). Exit geoPaint, and delete the OVERLAY geoPaint file. You may also delete the geoWrite file you created in the previous step, as it is no longer needed.

Create a new geoWrite file, and paste up the ORIGINAL outline shape onto page 1 (Step 7 in the example). If you followed my directions this far you would have a photo scrap of that still in your photo album from Step 1. On page 2, paste in the image you got in Step 6. Now, print this geoWrite file out using **Paint Overlay** and you will end up with your final image (Step 8 in the example).

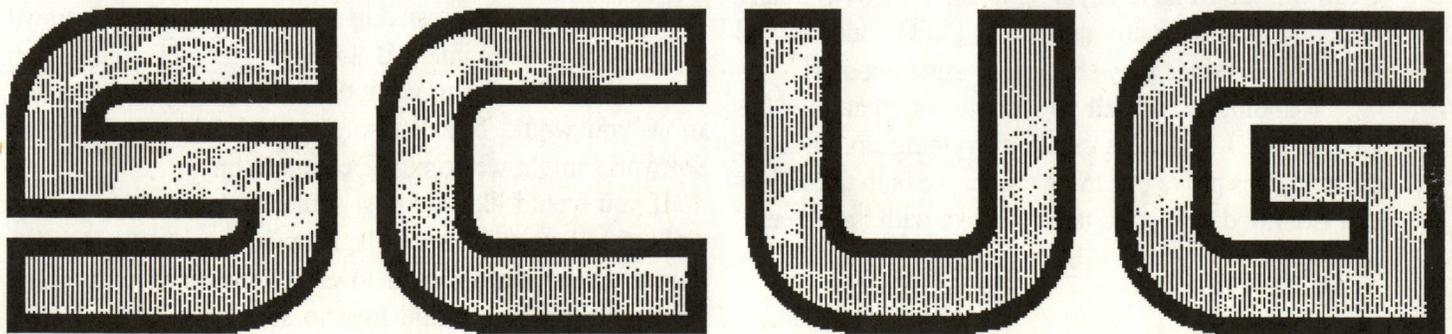
I used this powerful technique to create the logo for our club newsletter, which is printed here below the step by step examples.

Next time I will show an example of how to use geoPublish as a poor man's geoDraw. 'Till then, experiment with the overlay technique shown here and see what kind of neat special effects you can come up with. (Try this - use a fill pattern other than solid black when you create the mask in Step 3 and see what kind of effects you can come up with.)



	<p>Step 1: This is a graphic object which we would like to 'fill' with a graphic texture, or other image.</p>		<p>Step 2: This is the graphic texture which we would like to fill the shape with.</p>
	<p>Step 3: Fill, and then reverse Step 1 shape. Paste this on page 1 of a geoWrite document, at the top.</p>		<p>Step 4: Reverse Step 2, and paste on page 2 of geoWrite document, at the top of the page.</p>
	<p>Step 5: Print the geoWrite document using the Overlay Paint driver. This is the resulting overlay image.</p>		<p>Step 6: Reverse the image from Step 5, and paste to the top of another geoWrite document, on page 1.</p>
	<p>Step 7: Place original outline shape at the top of page 2 of the new geoWrite document.</p>		<p>Step 8: Print the new geoWrite document using the Overlay Paint driver. This is the final image we were after.</p>

Below is an example of this technique as used in our club newsletter masthead. A drawing of clouds was used to 'fill' the shapes of the letters. (By the way, SCUG stands for Saskatoon Commodore Users Group. Not a pretty name, but it works!)



## RALLY CRY TO GEOS USERS

*Sorry for the confusion...*

by  
Susan Albert

It all started out to be so simple. Back in November, after many heated discussions with a confirmed Apple and IBM user, I wrote an article entitled "One Up On Computer Snobs". The article was published in the December issue of GEOWORLD. End of story. Not quite.

In the beginning of January I received some very complimentary Email on Qlink from Paul Hughes (SysopPH). He asked if I had received the other mail he sent to "a certain name", and he went on to say that he enjoyed my articles in INFO very much and was happy to find out that I would be writing for GEOWORLD. No, I replied that I didn't get the other Email - that wasn't my online name. And there must be a mistake, I've never written anything for INFO. It must be someone with a similar name, I thought.

Paul assured me that there was no mistake, a Sue Albert did indeed write for INFO and was also on Qlink. Uh-oh, this could be trouble! Sure enough, there is another Sue Albert out there. And yes, she also uses a Commodore and GEOS. Talk about coincidence! Fortunately the other Sue Albert must have a sense of humor - she didn't seem at all upset over the whole situation.

So now I think some clarification is in order. The other Sue is from California and uses a C64. I'm from the opposite side of the country (near Buffalo) and use a C128 (not that I have anything against the 64). I can't take any credit for any articles in INFO - although I might like to since they seem to be quite popular!

I apologize for all the confusion that this has caused and I hope this clears everything up. But the episode does prove one thing - since we both use GEOS and Commodores, good taste must go with the name.

Let me say at the outset of this article that I believe that GEOS is the best thing to happen to the Commodore 64 since the price of the Disk drive was lowered. GEOS, in my opinion, still falls short of being the "ideal operating system". Many would probably say to me, "Then why do you use it?" To that I would answer it beats anything else available for the commodore 64!

Many in the business world regard the commodore 64 as a "toy" computer. I still find that it fills all of my needs in my work as a minister. Many of my "preacher friends" when they find out I use a commodore 64 have many times asked "When are you going to get a real computer?" I used to think the same until Berkeley Softworks the makers of GEOS came on the scene. I still remember the first time I sat a user of another Graphic operating system, of a more expensive computer, was "bowled over" when he said that GEOS came up looking just like his computer does for about 1/4 the cost. That prompted me to check out some of the software available for the other computers that use a Graphic operating system to see what was available. A trip to my local Kroger and a copy of Mac User magazine yielded some interesting ideas.

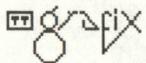
I wrote letters to all companies that advertised Fonts and clip art to see if they would be interested in "gearing up" to write programs for the GEOS environment. Most companies I wrote said they were. They also gave this qualifier. You are the first one that has asked us about doing that. This gave me the idea to write and urge all commodore users and GEOS users to write some of these companies point out that the commodore can be used for "serious" computing and not just a game computer.

One company that I received a flyer from offers many font styles that I haven't seen available for the GEOS environment. Fonts that also include shadowed letters! They were highly interested in writing for the GEOS crowd if there was enough interest! I would like to challenge each "serious" GEOS user to write these companies and let them know you would buy the software who knows Berkeley Softworks might welcome the competition.

If you would like to know some companies feel free to write or call me and I would be happy to give you addresses. If you write fonts I would love to correspond with you I have some styles I would love to see designed for GEOS especially GEOPUBLISH!

Mike Hughes  
P.O. Box 146 Cleveland, Ms. 38732

These are some of the characters in the "Icons" font!



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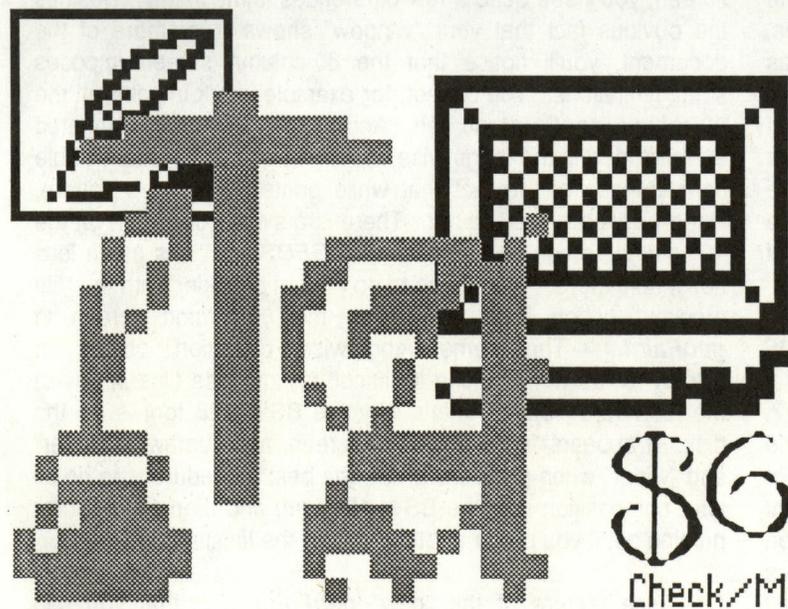
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# The Ins & Outs of GEOS 128

by Marte Brengle

Just as the Commodore 128 is both an extension and expansion of the possibilities offered by the Commodore 64, so **GEOS 128** improves on **GEOS 64**. It's the same familiar environment, of course, but enhanced in such a way as to seem entirely new.

The difference between the two programs will be apparent as soon as you boot the 128 version. The 80-column screen is incredibly crisp, clear, and detailed. If you're using the proportional mouse, the pointer moves across the 80-column screen with amazing speed. Try switching back and forth between the 80-column and 40-column screens, and you'll wonder why you ever thought the 40-column screen was fit to work with. It seems fuzzy, and the pointer seems to drag across the page instead of fly.

When you use the Preference Manager, you'll notice that on the 80-column screen you don't have the same freedom to change colors that you do in 40 columns. You can't change the pointer color, and your only choice on the border is between black and white. However, despite what the manual tells you, you *can* change the colors on the foreground and background. This may seem a bit restrictive if you're used to changing your screen colors a lot, but the 80-column screen, in its default colors, is so much more readable than the 40-column screen that the limited choice of colors probably won't matter. I always found an irritating "shimmering" effect on my Thomson monitor with the default colors in **GEOS 64**, and I never did find a combination of colors that would eliminate it completely. With **GEOS 128** in 80 columns, that's never a problem. My strained eyes thank BSW every time I see that nice crisp screen!

Unfortunately, the manual that comes with **GEOS 128** may leave a few beginners behind. Many parts of it appear to have been moved over from the **GEOS 64** manual, without anyone checking to see if they really applied, and in some places, complex procedures are not adequately explained. And, as many people have found out, in some cases essential information is simply left out. I did a file detailing the changes that (in my opinion) ought to have been made to the manual, and it's available for downloading on Q-Link under the title **manual.edit**, uploaded by me in my Sunny G persona. It's a fairly long file, and you'll probably want to download it to get all of it; I'll just hit the high points here.

If you haven't installed any follow-on products on your **GEOS 64** disk (and I hadn't, at the time I got **GEOS 128**) the natural inclination is to answer "no" to the question on the screen during the boot-up procedure. That's what I did, and of course it left me with **GEOS 64** and **GEOS 128** boot disks with different serial numbers. I wish I'd had Capt. Nathan's excellent instructions in the November **GEOWORLD**, showing how you can use the 128 Applications disk to make the serial numbers match. At the time I bought **GEOS 128**, however, I didn't own any add-on programs, and I didn't understand the nature of

the "serial number." When I later got some add-on programs (**geoWrite Workshop 128** and **geoPublish**) I installed them to my **GEOS 128** boot disk, since I rarely used **GEOS 64** any more.

Now, on to the program. If you've answered "yes" to owning previous GEOS applications, any **GEOS 64** application or add-on (except **geoFile** and **geoCalc**) can be run from **GEOS 128**. Some of them may require switching to the 40-column screen. (In fact, with **geoPublish**, if you don't switch to the 40-column screen *before* you click on the program icon, the program will lock up on you!) The **geoFile** and **geoCalc** programs won't run because they're based on the internal workings of the C64 itself, and that part of the program can't be "translated" to the C128. So if you have those programs, you'll have to continue using them under **GEOS 64**. There will soon be versions of those programs available for the C128.

Make sure you have copies of the 128 **deskTop** on your work disks or in the REU. If you've already got the 64 **deskTop** on a work disk, and you want to use that disk with **GEOS 128**, remove the 64 **deskTop** and replace it with the 128 version. That way you won't constantly get messages that your files and programs have to run in 40 column mode, when chances are they really don't. One interesting quirk in the use of **GEOS 64** files (such as **geoPaint** or **geoWrite** documents) is that if you try to open them from the **deskTop** you'll get a message saying that the file runs in 40 columns only. However, if you first open **geoPaint** or **geoWrite 128**, and then select "open existing file," the document will load in 80 columns with no problem.

When you open **geoWrite** or **geoPaint** on the 80-column screen, you'll see quite a few differences immediately. Besides the obvious fact that your "window" shows a lot more of the document, you'll notice that the 80-column screen imposes some limitations. You cannot, for example, work in color on the 80-column **geoPaint** screen. And shapes will seem elongated and distorted in the lengthwise direction. This is an unavoidable consequence of the fact that while printed pixels are square, video pixels are rectangular. There is a similar distortion on the 40-column screen in all versions of **GEOS**, but it is much less noticeable there. You'll have to do a lot of checking with the "file preview" option if you work on the 80-column screen in **geoPaint**. The same lengthwise distortion occurs in **geoWrite** as well, making it difficult to compose files in any of the "standard" fonts. That's why the **BSW 128** font is on the disk. It appears "normal" on the screen, and somewhat "fatter" and "wider" when printed out. So the best procedure is to do all your composition with the **BSW 128** font, and then re-font it for printing out if you prefer another font for the finished document.

One nice feature of the "new" **geoPaint** is that you can remove the "toolbox" icons from the screen. In fact, you will have

to do this if you want to draw on the entire screen, since the icons are actually "covering up" part of your drawing window. You can click the icons on and off at any time by using the little "wrench" icon at the top of the screen. If you want to work in color, you'll have to use the 40-column screen, of course.

As I mentioned, nearly all 64-mode add-ons and applications will work with **GEOS 128** in the 40-column mode. However, again, there are some quirks, and one of them is something that BSW should have put in the manual in a prominent place -- and didn't mention at all! For some reason, you cannot install any BSW program, even those designed for use with **GEOS 128**, unless you first configure your 1571 disk drive to act as a 1541. This is not a difficult nor a time-consuming procedure, and you can re-configure it as a 1571 right after you've installed the program. All you need to do is click on the **configure** icon, select "no drive" for Drive A, click **OK** when it tells you you can now turn off the drive, and then (without turning off the drive, of course) click on the **1541** box. Then return to the **deskTop**, install your program as directed, and use the **configure** program to change back to a 1571. Why a 128-mode program should insist on having a 1541 drive is yet to be explained, but that's the way it works.

Another quirk is noticeable when you try to run a non-**GEOS** program by clicking on it from the **deskTop**. When you do that, the program drops back to the C128 screen and issues the command **BOOT"PROGRAMNAME"** (which you will see on your screen). If you're trying to run a 64-mode program, this will probably send your computer off into the Twilight Zone. If you've copied the **deskTop** into your REU, you can press **RESTORE** to get **GEOS** back again, but it's a nuisance -- and you'll have to switch to **GEOS 64** or regular 64-mode to run that program anyway.

If you're working with both 1541 and 1571 drives, you'll sometimes run into another program quirk. If you've formatted your work disks with the 1571 as double-sided disks, you cannot open them at all in the 1541. You'll get a message saying that your operation was cancelled due to "double sided disk in 1541." However, if you want to copy

over a file from a 1571 drive to a 1541 drive, and you want it to go on a disk that has been formatted double-sided, there is a way. Put the disk in the 1541 but don't open it. Then go through the normal "copy" procedure, dragging the icon from the **deskTop** to the icon for the other drive. The file will be copied over, even though the disk hasn't been opened -- assuming, of course, that there is room on the "first" side of that disk to hold it.

Something else that is mentioned in the manual, but which is easy to miss, is the location of the 128-mode **CONVERT** program. You'll need this program if you're going to do any file conversions under **GEOS 128**. The program, for some unknown reason, is located as the last file on the QuantumLink disk. To get to it quickly and easily, open that disk, type 9 on the keyboard, and then click on the "next page" corner. (There's no way to get to page 10 from the keyboard.) I'd suggest copying the program over to your Applications disk at the very least, and certainly to any download or work disks you may have. I also renamed the file to **CONVERT 128** when I put it on other disks, so I could tell which version it was -- and, of course, so I could have both the 64 and 128 versions on the same disk if I chose.

If you enjoy working in the **GEOS** environment, and you have a C128, I believe that **GEOS 128** is a worthwhile investment. When BSW finishes the 128-mode versions of their popular 64-mode add-on programs, you'll have a complete library of programs that would be difficult -- if not impossible -- to match anywhere else at many times the price. (The 128 version of **geoPublish** will surely be worth the wait!) Just keep in mind that BSW sometimes doesn't tell you "everything in the world you'd ever want to know" about their programs. Some people may find that annoying, but I prefer to think of it as a challenge -- still plenty of unexplored territory out there to investigate! And if we all work together on the project, who knows what the future may bring?

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It's hard to believe how fast our operation is growing, and harder to keep up with. It's apparent that we'll soon need to hire paid help for day to day operations. One of our prime objectives is to give the fastest possible service to you, our friends and customers, and we are having a bit of trouble doing that: we do appreciate your patience with us, and I promise we'll continue trying to do better.

Our BBS sysop, RAIDER, has returned to college in California, so there's been some sloppiness in the sysoping. As soon as he's settled, he'll catch back up. Again, we appreciate your patience.

Some folks, especially BBS novices, have had problems getting around in the BBS, so we're making a very comprehensive printed documentation available to members for \$4.50.

Our clipart library has grown so large that it's difficult to locate specific graphics when they're needed, so we've published a catalog of printed samples. The disks come with the catalog, and that's the best way to take full advantage of the clipart. Conversely, if you've done some graphics you'd like to contribute, we'll appreciate it, and repay your generosity with a copy of our catalog, along with the disks.

As a matter of fact, we're always looking for new programs and programmers. We give complimentary memberships for shareware programs, and offer marketing contracts for commercial stuff. If you have something neat, please consider letting us use it.

Which brings up an unpleasant reality: when we began offering memberships, which included all of our disks as they became available, we didn't anticipate the large number of disks that would be: we simply do not have the resources to send everyone all of our disks. We must either curtail our development of new disks, or charge a nominal fee for shipping and handling for requested disks. We're open to suggestions on the best way to handle this unfortunate miscalculation on our part.

Our tentative plan is to fill requests for three new disks, then charge \$1 for each subsequent disk requested.

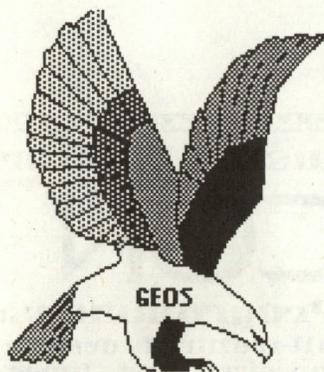
If you're into fonts, we've lots of new ones. You can get a doublesided disk, with some good ones by Howard Frenald on the front, and some new public domain stuff on the back. Our Font Grabber disk, with programs to convert Commodore Character sets to GEOS, dozens of converted fonts, and a font ID# editor, is ready to go as soon as legal requirements are complete.

If you're signed on to GENIE, you may have noticed the section of the GEOS board reserved for shareware members. All of our shareware stuff is in there, and available for downloading. All you need to do is leave a message to the sysop (Master Blaster) that you're a member, and you'll be given immediate access to that section. If you're not a member, hey!- you don't know what you're missin'-and if you're not on GENIE, give 'em a try, it's a good system, and independent (if you know what I mean).

For those of you who use GEOS, and aren't familiar with Mystic Jim's Stuff, just drop us a line, or give us a call, and we'll send you an introductory disk, and further information. Give us a try- I think you'll like our stuff.

We owe a debt of gratitude to our good friend Larry Feaster, editor of the Shenendoah Valley Commodore Users Group newsletter, TRACK 18, for helping us out of a tight spot last month, and to the SVCUG for the individual generosity of it's members for contributions for using our stuff (that's a first). Thanks, Larry, and the SVCUG.

The best part of all of this for myself and Judy is the opportunity to meet new friends. We read and enjoy all of your letters, because you're very special group of people, and we look forward to hearing from you.  
Best.



# Mystic Jim's Shareware Update

February, 1988 Volume 2, number 2

## \* NEW LAST MONTH

- Hack'n GEOS.
- Howard's Fonts.
- BASIC-8 Utility disk.
- Fontastic.
- Clip Art: About 15 disk sides
- Accessories B+
- GEOPUBLASER Laserprint upgrade for GEOPublish
- \*\*COMING SOON:
- GEOGames: Solitaire, Puzzle and more.
- GEOGRAPHICS

More great conversions, utilities for Mac. and others: INTERCEPTOR: Convert any GEOS filetype to GEOPAINT.

## DISK#1 New Program Updates.

If you've received disks 4,6 and "R" after Sept 1, you have all of our programs. Programs added after Sept. 1 will be on disk#1 and on the BBS for downloading.

## DISK#2: INTRODUCTORY DISK

This is the first disk we send to new friends on their first request. If they like this disk, they can request others, or join our shareware group.

Bootstraps 1.2, 1.3U, 1.3D (bootdisk makers) (7)

## Input drivers:

More than a dozen Accessories

More than a dozen

## GRAPHICS.

Imagecon. (7)

Piconvert: Doodle-GEOS (x)

Computer Eyes: for GEOS

GEOPaint Help Files (7)

## DISK#3 FONTS

Balloon 24pt, Banner 36pt., Dvorak 10pt

Esperanto 6,10,12,14,18,24pt

Greek 12pt. IBM 10pt., Fill-48 48pt.

MegaBanner 280pt.

Mystic 18pt. Oxford 12,24pt.

Paintbrush 36pt. Zapf 14pt.

Andrea's Calligraphy, Star Trek 48pt.

Howard's Fonts (members only)

Sixteen professional-quality fonts, designed by Howard Fernald.

B SIDE: About 24 new fonts, including PD versions of TT Grafix best. We highly recommend TTG's excellent font packages.

## DISK#4 Programming Tools

(members only)

Convert.ml.: ML to GEOS (5)

GEOSTart. (1)

DISPMEM: display memory. (15)

GEOThreader. Single Step Sim.

GEOLinker: header linker. (2)

GEOSplitter: header splitter (2)

Disk Editors 64 and 128

Micromon 64

Spelunker: display memory. (10)

Techman Updates: fixes OGPRG

Alex Boyce's Tech Manual!!

GEOHACKER: Strips copy- protection from ALL GEOS versions and add-on programs, and edits serial#: EVEN GEOS128!, GEOCalc, GEOPublish, new GEOFile, GEOPROGRAMMER. GEOSpell (version 1.7) (7)

DISK# 5: Terms and utilities for Mystic Jim's BBS (members only)

## DISK#6: Graphics Converters

PS-GEOS: all Print Shops(7)

PS/NewsRoom/PrintMaster

Imagecon: hi-res/multi-GEOS(7)

Piconvert: Doodle-GEOS

GEOVERT: Converts GEOS<> hires/multi-back

## DISK #7: Printer Drivers

(of interest to user groups)

All GEOS printer drivers, including laserwriters, GEOCable, and Mill's double /quad drivers. (added more this month)

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6. Randy Winchester

7. Mystic Jim 8. Bruce Moore

9. Ben Taylor 10. Tony Reynolds

11. Terry Mullett 12. Mitch Romm

13. Tim Corcoran 14. Terry Mills

15. Lynn Kerby. 17. Andrea Needham

16. James Hastings-Trew

17. Howard Fernald 18. Lou Wallace

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# Using GeoPublish as a Business Card Maker

By Peter T. Hughes

GeoPublish is a very powerful program. It has many useful tools which help in making newsletters which contain text and graphics. But with GeoPublish you can create any printed matter with a little time and ingenuity. You can create any thing that nine dedicated programs which cost thirty or forty dollars each can make. GeoPublish can be a newsletter maker, a sign maker, a certificate maker, a calendar maker, a greeting card maker, a bumper sticker maker, a car sign maker, a badge maker, a business card maker, and a letter head maker. GeoPublish can do all these things.

In this article I will tell you how to easily create business cards. By using a photo scrap from a GeoPaint document and a text document from GeoWrite you will have all you need to start creating your own business cards. But there are two things that need to be done before you start. You need to plan on what computer setup you need and what info is needed on your business card.

You can get by with a C64 computer, a 1541 disk drive, a TV set, a joystick, an Epson compatible printer, GEOS 64, GeoPaint, GeoWrite 1.3, and GeoPublish. But I use the optimum system for power and quickness. I use a C128D computer with built-in 1571 disk drive, a 1084 composite/RGB 80 column monitor, a 1750 RAM expander, a 1351 mouse, a Star NX-1000 multi-font printer, GEOS 128, GeoPaint 128, GeoWrite 2.1 128 and GeoPublish in the 40 Column mode of 128 GEOS.

Now plan out what information you need to put on your business card. You should have your name,

your title, your company, your department, your work address, your work phone and maybe your company logo and company slogan. Once you have decided the things you want on you card, make a sketch. Show where you want everything to appear.

One last thing before we start is to find out the best way to create the business card in GeoPublish. You could do all the text in GeoPublish with Page Graphic text. But there are some problems with doing it that way. Because GeoPublish does not have a copy feature you will have to create the text for each card - you will be creating eight cards on a page. If you were writing four lines of text on a card that have different type fonts or sizes or styles each line would have to be in a separate text box. Also If the lines were centered you would have to center each line manually because page graphic text that is centered is centered to the full width of a page not to a certain area.

The best way to create the text for a business cards is in GeoWrite. Set the right margin so that each line of text is about 3 1/2" long. Write the text centered and with any text enhancements that you want for each line. Copy the text and paste it seven times with no space between each range of text. Now your text is ready to bring into GeoPublish.

If you want a company logo placed on your business cards you have to create it in GeoPaint. Draw your logo in a size so that it can fit on your card and still have room for your text. Copy the logo to the disk as a photo scrap. You can paste the scrap into a photo album for safe keeping or if you don't copy another photo scrap to the same disk and over write the previous photo scrap you can leave it all alone on the disk.

Now you can load up GeoPublish and create a document. The first area in GeoPublish you should work in is the Master Page mode. Here you will set up your page and put done guidelines and use the rulers to measure out the placement of your cards. There will be eight cards on your page - two across and four down. Turn on the ratchet feature at half inch jumps. Put guidelines on the top ruler at the 1", 4 1/2", and 8" marks. Put guidelines on the left ruler at the 1", 3", 3



Peter  
Hughes





Paul  
Hughes

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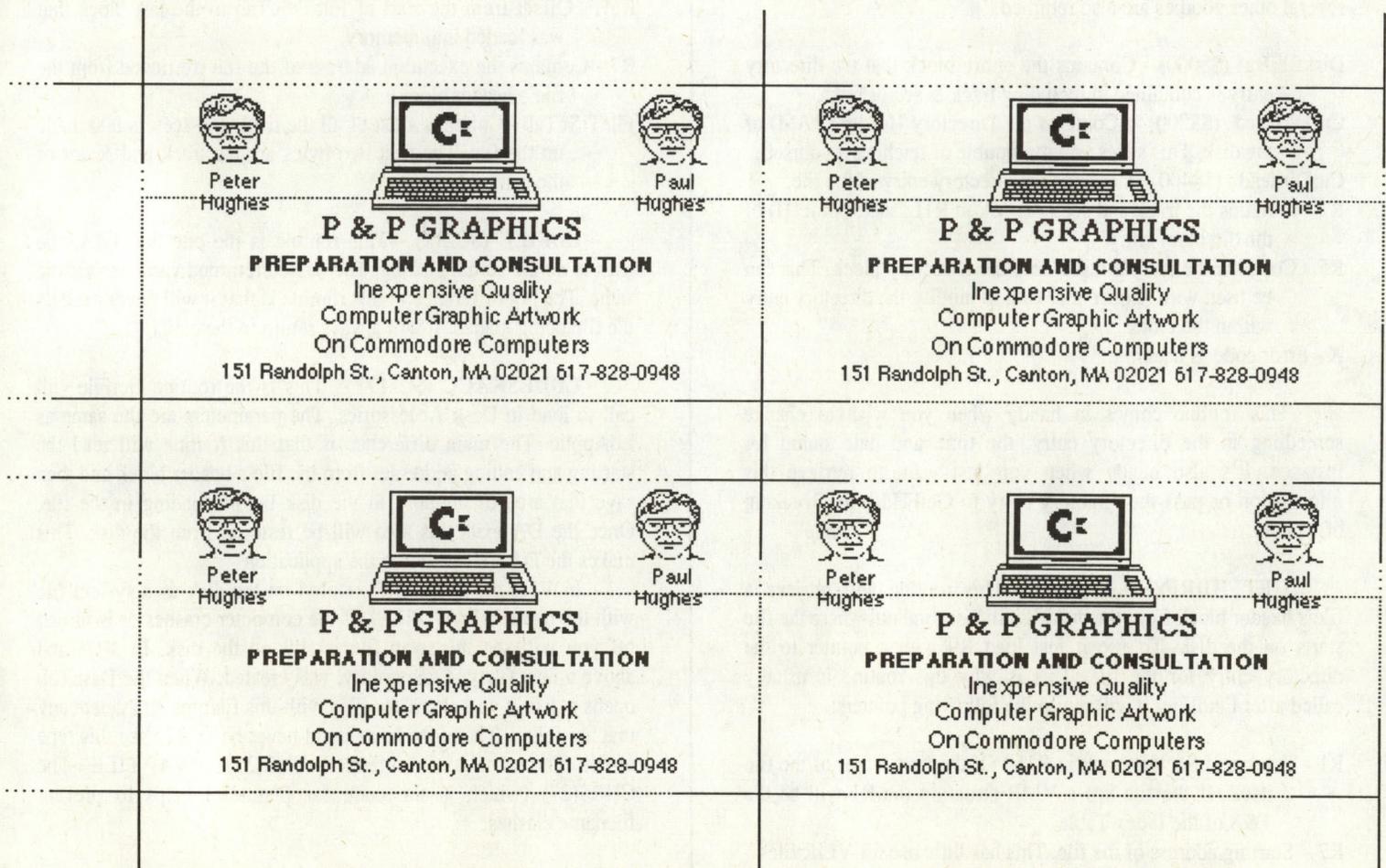
1/2", 5 1/2", 6", 8", 8 1/2", and 10 1/2" marks. Get the line tool from the Toolbox and draw one inch long lines that intersect at the corners of your cards. These are corner marks to show you where to trim the cards after printing.

Now the card is all set up and you are ready to add text and graphics. Go to the Page Layout mode to create text areas in each card. Use the Open Region Tool - the dotted box - and make regions for text on each of the eight cards. When opening the regions the dotted sides of the region will snap to the sides and bottom of each card for easy placement. Put the top side where you want the text to start. Select the Text Placement Tool - the big T. A dialogue box will open and you will select the write document that contains the text for you cards. Click into each text region from top to bottom of page and the text will flow into those areas. Your one page write document will be converted into 8 short pages. Select a text region of one card and go to the editor and

see if all the text is there. You may have to adjust the top of the text region so that text does not flow into the next card.

The last thing to do to finish the card is place the logo onto each card. Go to the Page Graphic mode and select the Bitmap Placement Tool. Go into the zoom mode and place the photo scrap where you want it on the card. If the scrap is in a photo album you have to open the album and copy out the graphic. After placing the logo on each card by scrolling around use the pointer to reposition the graphic on each card in pixel increments so that they are in the exact same place you want them on each card. Now you have a complete business card.

You can print your cards on an Epson compatible printer using a new dark ribbon or the EPSON.DBL.PRINT printer driver or on a laser printer for professional quality output. Have the cards xeroxed on card stock and use a paper cutter to trim cards.



Four of eight business cards printed with Content page graphics and text, Layout text areas and Master Page guidelines.

the one that R10 points to. This allows you to create data files that can be located without locating another applications data. For instance GeoIcon will only see it's own files. If there are any GeoPaint files on the disk also GeoIcon will not see them. Note that the search is only significant to the number of characters in the string pointed to by R10. For instance, if the string was 'A' then all files whose permanent name string begins with 'A' will be located.

Note that the filetype searched for is a Geos filetype. Therefore this routine can't distinguish between (Commodore) PRG and SEQ files if they have the same Geos Filetype. For all intents and purposes Geos ignores C= filetype completely. Applications are normally USR files but if you change them to PRG or even DEL files they will still work!

Ok, so now we know the name of a file, what can we do with it now? Well we could use GetFile to load it in but there are several more options available to us. First let's find out a little more about the file. There are two routines to do just that:

**FINDFILE** (\$C20B) - This is a handy routine that will load the directory entry of a file into the computer's memory. All you need to pass it is a pointer to the name of the file (null terminated of course) in R6. In addition to the directory entry several other goodies are also returned.

**DiskBlkBuf** (\$8000) - Contains the entire block that the directory entry is contained in including track & sector links.

**CurDirHead** (\$8200) - Contains the Directory Header (BAM) of the disk. This saves you the trouble of fetching it yourself.

**CurDirhead** (\$8400) - Contains the directory entry of the file.

**R1** - Contains the track and sector (track in R1L, sector in R1H) of the directory entry.

**R5** - Contains the entry's offset into the Directory block. This can be used with X or Y indexing to modify the directory entry within the block.

**X** - Error code as usual.

This routine comes in handy when you wish to change something in the directory entry; the time and date stamp for instance. It's also handy when you just want to retrieve this information or pass the directory entry to GetFHdrInfo. Speaking of which...

**GETFHDRINFO** (\$C229) - This routine will retrieve a file's header block from the disk. It will also find out where the file starts on the disk. To use it just load R9 with a pointer to the directory entry for the file. This is why this routine is usually called after FindFile. It will return the following pointers:

**R1** - Track and Sector (track in R1L) Of the first sector of the file itself. If the file has a VLIR structure the R1 will be the T&S of the Index Table.

**R7** - Starting address of the file. This has little use for VLIR files.

**FileTrScTab** (\$8300) - The first two bytes are the Track and Sector link to the file's Header Block.

**FileHeader** (\$8100) - Here's is where the Header is loaded.

**X** - Error code or zero.

Ok, now let's look at some of the lower level read routines. At times these routines come in handy when the application already knows what it wants to do. The higher level routines tend to make several decisions depending on what parameters were passed. The lower level routines are much simpler therefore faster.

**LDAPPLIC** (\$C21D) - This routine will load in an application and execute it. You pass it the same variables as you pass to GetFile except that instead of passing a filename in R6 you pass it a pointer to the file's directory entry in R9. This routine will not return to the caller unless: 1) there was a disk error, or 2) R0L Bit 0 is set indicating that the file is to be loaded into a different area of memory then the one specified in the file's header block. This is the routine that GetFile call's if an application is to be loaded. Several variables are returned by this routine for the application's use if desired:

**R1** - If the application is longer then 32,258 bytes (127 blocks) a Buffer-Overflow error will result and loading will stop. The X register will be set to 11 and control will be passed back to the caller (this is considered a disk error). R1 will hold the track and sector of the sector which caused the error. Technically the caller could call even lower level routines to finish the loading so larger files are possible.

**R5L** - Offset from the start of FileTrScTab to the last block that was loaded into memory.

**R7** - Contains the execution address of the file (retrieved from the file's header block).

**FileTrScTab** - Contains a list of all the track and sectors that made up the file. The first two bytes are the track and sector of the header block.

**LDFILE** (\$C211) - This routine is the one that LdApplic uses to do the actual loading. The passed/returned variables are the same. The big difference in this routine is that it will never execute the file being loaded. It will always return to the caller.

**LDDESKACC** (\$C217) - This is the routine GetFile will call to load in Desk Accessories. The parameters are the same as LdApplic. The main difference is that this routine will read the starting and ending addresses from the file's header block and then save that area of memory to the disk before loading in the file. Once the DA exits this area will be restored from the disk. This makes the DA transparent to the application

In V1.2 the swap file is stored on the disk as a system file with the name 'SWAP FILE'. If the computer crashes or is turned off you will see the swap file is still on the disk. In V1.3 and above a new filetype, temporary, was created. When the DeskTop opens a disk it will check for files with this filetype and delete any that are found. Therefore you should never be able to see this type of file. The name is also different - chr\$(27)+'SWAP FILE'. The CHR\$(27) (which is the code for plaintext) helps to prevent filename clashes.

**READFILE** (\$C1FF) - This is the lowest level file loading routine. You do not pass this routine a filename, merely a track and sector. It will then chain thru the sectors loading in each. This is also a great way of loading in VLIR chains (but that another story...). The parameters passed to this routine are simple:

R1 - Track and sector (as always the track is in R1L) of the first block of the chain (or at least the first block you want to load into the computer).

R2 - Maximum size to load in. This is handy if you are not real sure how long the file is and you do not wish to overwrite important memory areas. If the file is too large then a Buffer\_Overflow error will result. The block that wouldn't fit will not be loaded in. If you do not care about the size of the file then load R2 with \$FFFF.

R7 - The starting address in the computer's memory to load the file.

The returned variables are also straightforward:

R1 - Only valid if there was a Buffer\_Overflow. In that case R1 will hold the track and sector of the block that wouldn't fit into memory (exceeded the value in R2).

R5L - Offset to the last entry in FileTrScTab (entry [word length] not byte).

R7 - Pointer to the byte just passed the last one loaded in.

FileTrScTab - Holds the list of track/sector links that were loaded in. The first entry will be the link to the file's header (actually the header pointer is not done by ReadFile - it is filled in by GetFHdr - ReadFile does the rest).

Because this routine does not require a filename, only a T/S pointer, you have great flexibility in creating custom file formats. In fact you could create a data disk without any directory entries at all! As long as the blocks you wish to load are chained together (there are other routines we'll be talking about later to do single blocks). We will be talking about this routine further when we discuss VLIR files.

These routines are useful for reading in chains of blocks but suppose there is not enough room to read in the entire file or chain? The following routine can provide be a lifesaver in these cases:

**READBYTE** (\$C2B6) - This routine will simulate reading in a file one byte at a time. In actuality the file is read in a block at a time but only a single byte will be returned with each call. Reading in a new block when necessary is done transparently to the caller. The following variables need to be passed to it:

R1 - Track and sector of the first byte to be read in.

R4 - Pointer to a 256 byte (one block) buffer. This is used to hold the blocks as they are read in. Normally you would use DiskBlkBuf (\$8000) but this is not a requirement.

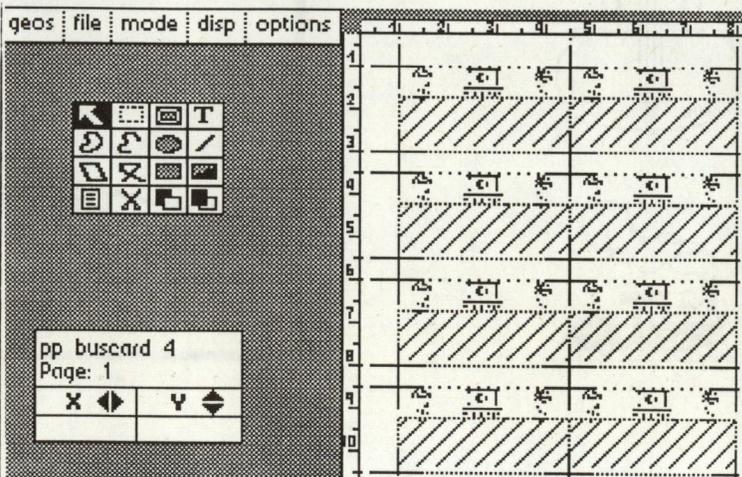
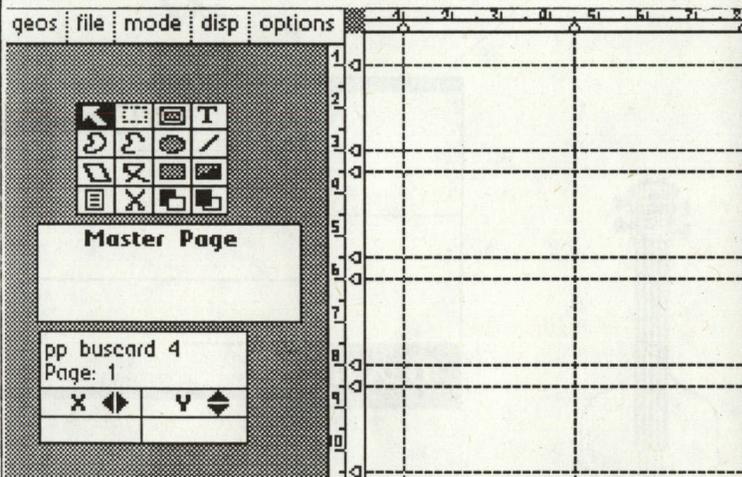
R5 - Should be zero. This variable holds the index to the next byte to be read in.

To use this routine just pass the following variable to the routine. The first/next byte will be returned in the accumulator. As usual X will hold any disk errors. Also BNE will be true if there was an error. Now all you have to do is keep calling this routine repeatedly until the whole file (or as much of it as you require) have be read. One twist: you must preserve the values of R1, R4, and R5! This should be rather obvious, if you change the values then the routine will be looking in the wrong place or read in the wrong blocks! Also don't mess with the buffer you have set up or you will change the bytes being returned.

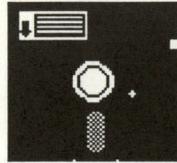
ReadByte is very useful for de-crypting files. You do not need to buffer the entire source file, just read in one byte at a time and then de-encrypt it as you go using a small source buffer (just how small depends on the type of encryption). The routine BitOtherClip will normally use ReadByte to read in a graphic file. This allows you to display graphics the are too big to fit in memory. It only requires a 134 byte buffer.

We have looked at the various ways to read in chains of sectors, there is one last routine we need to look at. It allows you to read in a single block, very similar to a U1 command in CDOS. This routine is called GETBLOCK (\$C1E4). All that it requires is the track and sector in R1 and a pointer to a 256 byte buffer in R4. As usual the X register will contain any disk errors. The first two bytes of the buffer will contain the track and sector of the next block in the chain (assuming that you are reading a block from a chain). There is nothing stopping you from creating random files using this routine.

That's about all that we have room for this time. So far we have covered virtually all of the routines that read files/chains/blocks from the disk. there are still some lower (actually lowest) level routines we haven't covered but we will save them for another month. Next month we will start looking at some of the routines that save data to the disk plus a few other miscellaneous routines. All told this series should contain about four installments (give or take, I write the articles on the fly so I'm never sure where I am going until I get there. I like it that way!) See you next month. -WC



Here is a small sample of what you'll find on DISKART™ from THOSE DESIGNERS!



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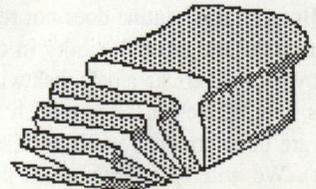
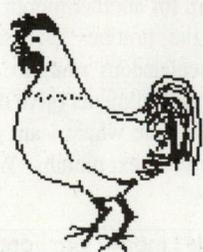
Bb+ Eb Ebo Abm Eb

F7 Bb7 Eb Ebo Bb7 Bb+

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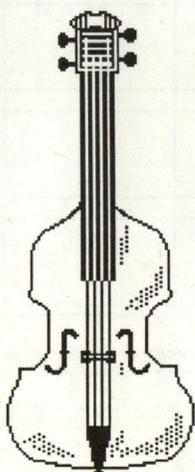
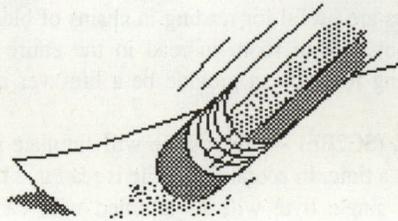


small sample of what can be done with MUSI-KIT



Small sample from DISKFORMS I

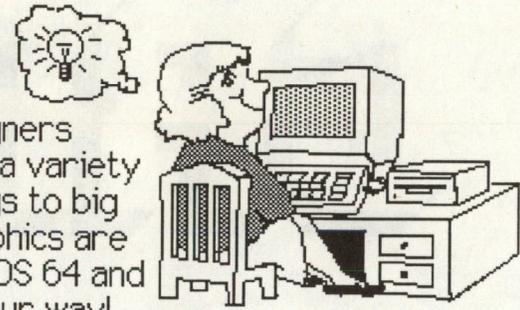
	<b>DELIVER...</b>
<b>QUANT</b>	



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<p>DISKART 5 (assorted)</p> <p>Make-a-face                  Drafting Equipment                  Vehicles 3                  Banners 1                  Flowchart Symbols                  Little Women 1                  Little Women 2                  Houses 1</p>	<p>DISKART 6 (animals, etc.)</p> <p>Farm Animals                  Critters 1                  Zoo Animals                  Dogs 1                  Cats 1                  Fish 1                  Space Creatures</p>	<p>DISKART 7 (assorted)</p> <p>Small Boats                  Large Boats                  Island Stuff                  Baby Stuff                  Graphic Goodies 4                  Male/Female heads</p>	<p>DISKFORMS 1                  (5 different blank forms and                  3 ready-to-print forms)</p> <p>Instructions                  Blankforms 1 thru 5                  lined paper                  Delivery Receipt                  Inventory Form                  Bank Deposit form</p>

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# GEO PUBLISH GRAPHICS

By Susan Puhn-Lamb

In the January column you may have noticed a thin one-pixel line above the heading. This is a good illustration of one of the differences between dot-matrix output and that of the laser printer. The line was included on the photo scrap because of the frustrating way geoPaint cuts or copies more area than you have indicated with the edit box. I should have erased and re-cut the scrap, but chose instead to cover the offending line with a white line. Now, I know that I read somewhere that the LaserWriter prints the different parts of the document in a certain order. It must print the bitmap first and obviously can't print a white line over it. With the dot matrix printer, all the elements are combined and the line is erased. Therefore, using a solid white line or box to cover an error isn't a good practice. Another lesson I learned from my own column is also a difference between laser & dot matrix printing. I had enlarged a bear graphic and the dot matrix output showed the screened area as uneven in a sort of striped pattern. When the issue came out, I found the screen was simply larger and not at all distorted. I still have a lot to learn about the idiosyncrasies of this program.

## ENLARGEMENT RATIOS

When you enlarge graphics or increase font sizes, lines that are other than straight up and down become distorted. Now, maybe I'll find out that the laser printer corrects this problem as it does with screened areas, but most of us will be using geoPublish with a dot matrix printer. The best way to increase the size, yet retain the height-to-width ratio is to multiply both by the same number. If a graphic measures 20 by 40 pixels, a multiple of four would give you 80 by 160 pixels. With this formula, all the pixels are enlarged evenly. Because geoPublish lacks a ruler, the only way to enlarge graphics to a certain size is to draw a geoPaint box

of the desired dimensions, enlarge your graphic to it, then cut the box out. If you don't have the time or patience for formulas, estimate enlargements in inches and use trial and error. Working in zoom display will show when the desired effect is reached.

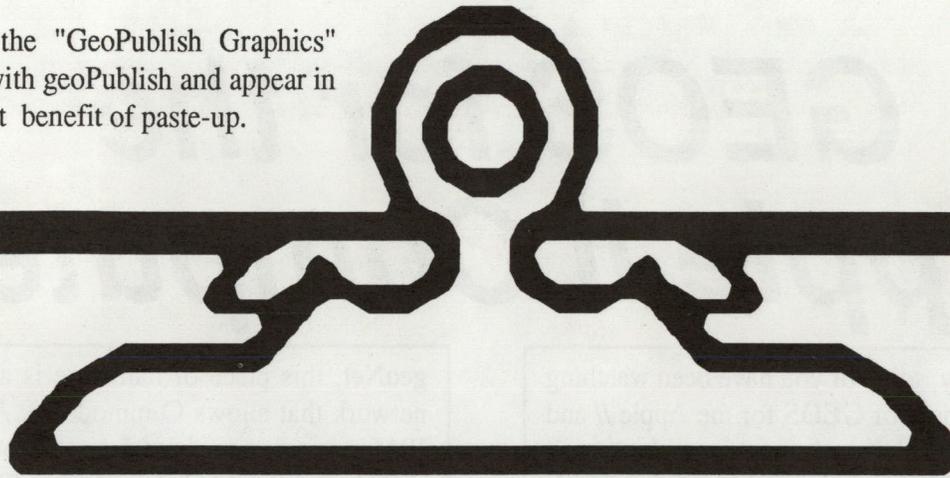
Enlarging fonts is easy since the attributes box allows for quick adjustments. Larger fonts will increase in size with better detail. A correct ratio is maintained by the adding of the original point size.

9 POINT  
18 POINT  
27 POINT  
36 POINT  
45 POINT  
54 POINT  
57 POINT

BSW font is so small, it looks terrible enlarged -- smoothed or not.. However, I've used it to illustrate how to enlarge a font and keep it uniform. By adding 9 each time, the font in 18, 27, 36, 45, 54 points, enlarges proportionally. When set at 57 points, instead of 63, the letters become distorted and the vertical lines are different widths. For use with the dot matrix printer the distortion is very evident.

The "Shadows" font at the top of the page was set first in the actual size of 47 points, then enlarged double to 94 points. The diagonals and line widths all remain even.

All pages of the "GeoPublish Graphics" columns are created with geoPublish and appear in GEOWORLD without benefit of paste-up.



"Lines" is a font using straight verticals, horizontals, & diagonals. It is in 40 points and prints out in actual size as the top line below shows. The center line is in 47 points and exhibits an unacceptable amount of distortion. When set in 80 points as the bottom line shows, all pixels are doubled and the letters appear as designed, only much larger.



In the case of 24 point fonts, since there are so many available, best results are achieved by setting them in 48, 72, 96, or 120 points. Other sizes may be acceptable and only experiment-ting will show how the font will enlarge. Obviously, larger fonts will enlarge to headline size in much better detail than small fonts. Smoothing only improves rounded letters that don't have a lot of diagonal lines and sharp corners.

When enlarging the MegaFonts, remember that 48 points is their actual size and the same enlarging rules apply.

If you want to retain the pixel structure of the original size, set large headlines in 48, 96, 144 or 192 points. These sizes will give better results than if you just pick a size at random.

It's a shame that the GEOS applications aren't set up to use larger fonts. Font designers such as myself are forced to break the large letters up into several files or they can't be used at all. There is a way to use fonts of more than one file which is a little more work, but worth the effort -- especially since the alternative is to endure the pronounced pixel effect of enlarging smaller fonts.

First "set" the letters you need in geoPaint. Some fonts may be too large for geoPaint 128, but they should all work in the 64 version. You may have to move letters around since you can't access both files at the same time. Once the headline is the way you want it, import to geoPublish by way of a photo scrap. This bitmap can be enlarged or smoothed to fit your needs.

Another solution is available if you have the new "geoWrite Workshop 128" with the paint drivers. In geoWrite, you can switch back and forth between files to access all the letters you need. Use the "Paint PAGES" driver to turn the document into geoPaint format where it can be cut to a photo scrap and made available for geoPublish.

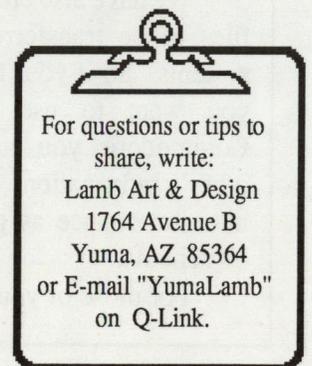
If you enlarge the headline in geoPublish, remember the height-to-width relationship to avoid distortion.

This page shows another example of the superb way geoPublish can take a small piece of art and blow it up to full page size.

For this sample, I smoothed the graphic as the pixel effect was too pronounced. It doesn't look too bad, even with my dot matrix print-out and could be used for a quick flyer.

When you increase a graphic's size to this degree, success depends on a number of aspects, such as the amount of detail and sharp angles.

Enlarging graphics is the most practical of the geoPublish features and one can get good results with practice and experimentation.



For questions or tips to share, write:  
Lamb Art & Design  
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or E-mail "YumaLamb"  
on Q-Link.

# GEOS for the Apple II Computer

Recently, some of you have been watching the development of GEOS for the Apple II and have been wondering how this package will affect you. Some have asked if GEOS for the Apple II will dilute BSW's effort on GEOS programs for the Commodore.

The answer is a resounding "no." Let me be the first to say that BSW is going to continue supporting both the Commodore 64 and 128. We will continue to create new programs for the Commodore and we will continue our support of our existing Commodore programs. So now you can all take a deep breath and relax.

But before you get too relaxed, let me explain exactly how GEOS for the Apple is going to *help* you as a Commodore owner and will actually *enhance* the Commodore market.

First, GEOS file structures are identical between the two systems. *Because of the identical file structure, applications will be able to be easily modified and shared by Apple and Commodore users, thus doubling the potential of the system that is currently available.* With GEOS expanded to the Apple, there is a greatly enlarged installed base of computers; among the Apple IIe, IIc, and the Commodore 64 and 128 computers, there are over 13 million home computers in these markets. Moreover, with GEOS as the standard operating system running across these computers, the potential for third party support is increased.

We have also created a cable that will allow files to be transferred directly between both systems. So if your friend has an Apple II, and you want to use his data files on your Commodore, you will be able to share each other's information. This feature will take on a new importance as geoNet becomes available in schools.

For those of you who are not familiar with

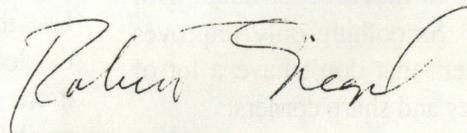
geoNet, this piece of hardware is a local area network that allows Commodores, Apples, and IBM computers to share data. In other words, children of Commodore owners will be able to use their home computers in conjunction with whatever computer that dominates the local school district.

Now, what does all of this mean for the Commodore owner who owns GEOS? Since it will be easy to create files and programs between systems, packages like clip-art libraries will become more plentiful. Public domain software will increase. Bulletin Board Systems (BBS) will appear that will contain more GEOS programs. People will design fonts that can be easily supported across different computers. And educational software, which is currently dominated by Apple II programs, will be transferred easily to the Commodore market. (BSW is actually working with some educational software developers to get them to program under GEOS.)

It is our hope that as GEOS on the Apple grows, GEOS on the Commodore will continue to expand and improve as well. We hope to have two complimentary systems that push the limits of both computers as far as they can go.

Here at Berkeley Softworks, we are excited about the future and the many opportunities it holds not only for us, but also our customers.

On behalf of Berkeley Softworks, I would like to thank you for your continued support, and I'll see you next month in GEOWORLD.



Robert Siegel  
Berkeley Softworks

HEADLINES

DOTS

HEADLINES

TOY SHOP

HEADLINES

POSTER

HEADLINES

IN-LINE

HEADLINES

CLIPPED

headlines

SLANTS

HEADLINES

CROSS

HEADLINES

COLLEGE (OUTLINE, FILLED)

HEADLINES

SMALL SCOREBOARD

HEADLINES

LINES

HEADLINES

GRAFILE

HEADLINES

BLOCKY

HEADLINES

OBLIQUE

HEADLINES

HEADLINES

headlines

NEW ENGLISH W/LOWER CASE

MOST FONTS ARE IN TWO FILES WITH INSTRUCTIONS FOR USE IN GEOPAINT AND GEOPUBLISH. NOT ALL FONTS ARE SHOWN HERE. TWO-SIDED DISK HAS MANY FEATURES INCLUDING ADJUSTABLE SPACING

headlines

PIXEL WITH LOWER CASE

HEADLINES

VERITHIN

HEADLINES

SHADOWS

HEADLINES

DECO

HEADLINES

SCOREBOARD

HEADLINES

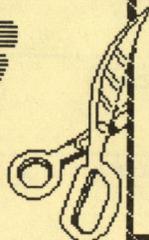
COLLEGE

HEADLINES

FAST

HEADLINES

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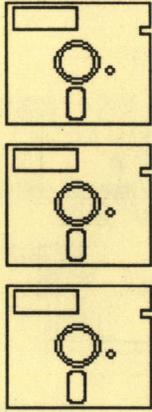
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