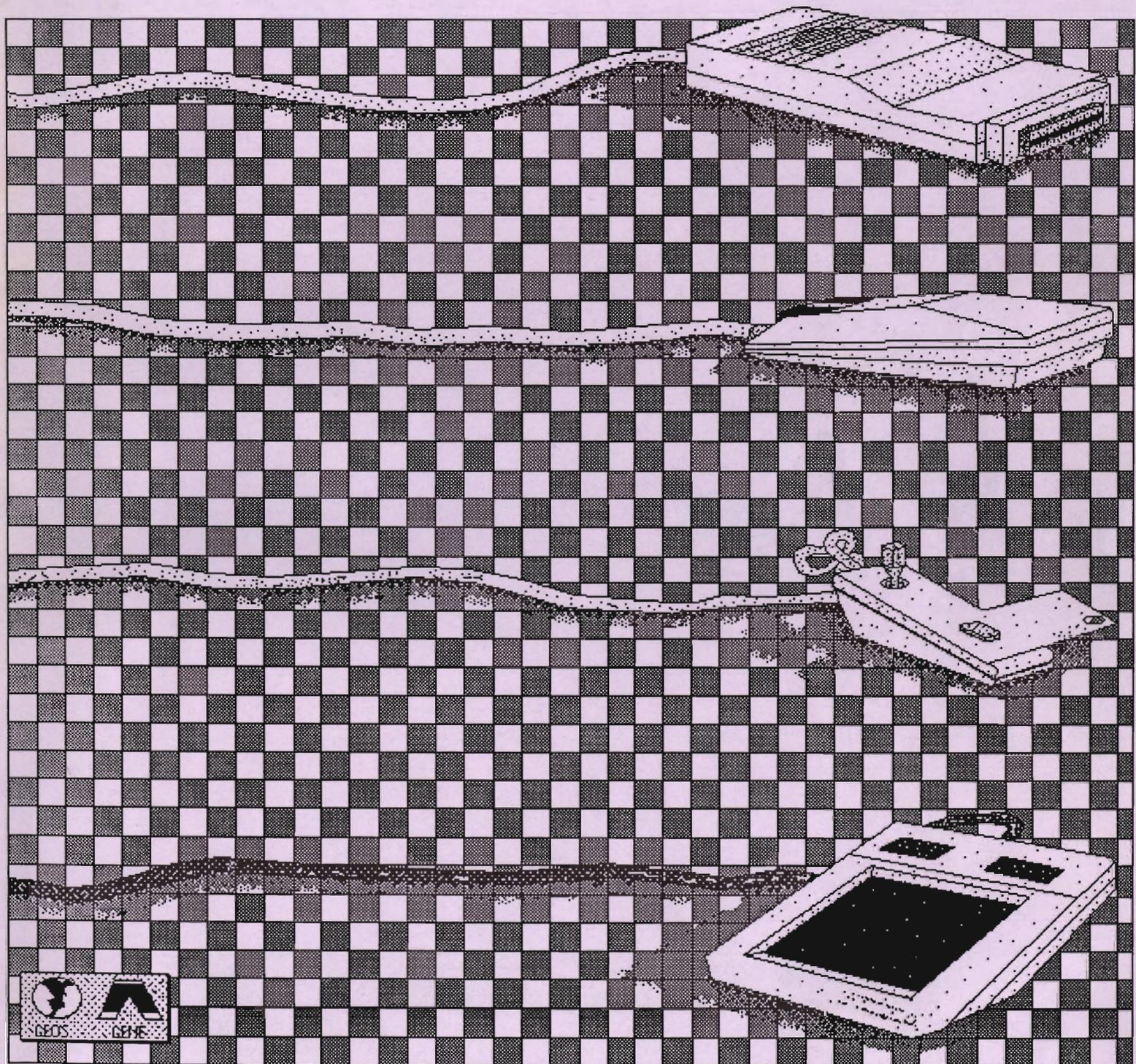
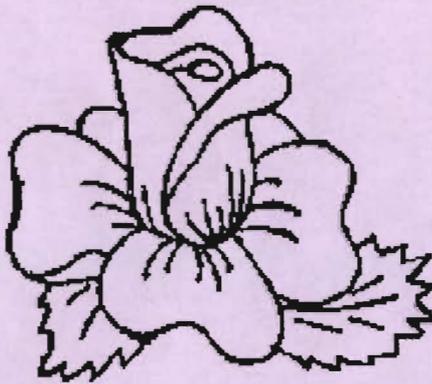
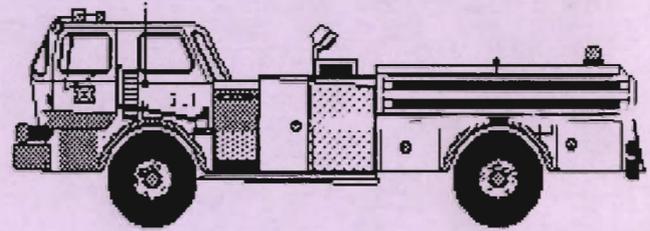
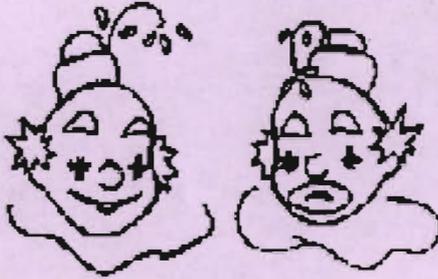
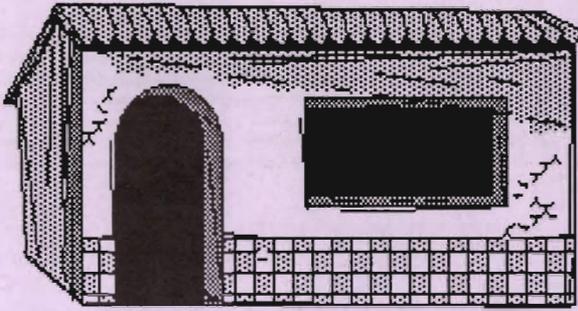


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*The definitive magazine about GEOS*

## Issue Number 18

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GEO WORLD MAGAZINE

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## Table of Contents

- |    |  |
|----|--|
| 2  | Chaining Photo Scraps<br>Susan Puhn-Lamb             |
| 4  | Will GEOS Survive?<br>Marshall Kragen                |
| 6  | GEOS Report<br>Mike Ross                             |
| 10 | Playing Games with GEOS<br>John Tackett              |
| 13 | As the world GEOS by...<br>Roger Ledbetter           |
| 14 | Inside GEOS<br>W.C. Coleman                          |
| 19 | BSW at the World of Commodore Show<br>Paul A. Hughes |
| 20 | GEOS Power Pak review<br>D. Roderick Eamon           |
| 24 | Expose<br>Paul A. Hughes                             |

The cover "Input Devices" by Gene M. Geroly.

# CHAINING PHOTO SCRAPS

By Susan Puhn-Lam

Importing geopaint graphics into geoPublish is a pretty simple task... as long as they are the size of a photo scrap. Currently, it is only possible to create photo scraps of limited size.

When using GEOS 64 geoPaint, the drawing window is 3.3 inches (263 pixels) wide by 1.8 inches (143 pixels) deep. While this is considerably larger than Print Shop or Printmaster graphics, it is difficult to obtain graphic effects found in professional or creative documents produced on a Macintosh or IBM computer.

With patience and practice, it is possible to duplicate these effects. Most of the articles in GEOWORLD are all-in-one documents, with text and graphics together on each page. The vertical disk graphic on the GEOWORLD disk ad, for instance, is made up of four photo scraps. The half-border on this page is made up of seven scraps. The trick is to chain them together into a seamless piece of art that belies it's chopped-up creation.

GEOS 128 geoPaint does increase the drawing window width to 1/2 page in 40 column mode and full-page wide in 80 column mode. However, the depth is still 143 pixels, so a minimum of five scraps are necessary to transfer a full page of art.

Graphics converted from programs that utilize the full Commodore screen, or geoPaint screen dumps produced with the Paint Drivers, also require moving to a geoPublish page in sections. Following a few simple rules will make this chore much easier.

First, always work on a copy of the artwork. Since it is better to "cut" your scraps (rather than "copy"), and each succeeding photo scrap is overwritten on the same file, it's very easy to obliterate a section forever.

Next, try to position your artwork as close to the top and left side of the drawing window as possible. The reason for this, is that the bitmap crosshair in geoPublish will exactly line up with the top horizontal pixel and far-left vertical pixel of the geoPaint edit box. This is good to

remember when creating artwork with other programs, including Computereyes. It may be necessary to move the graphic to this location before beginning to cut it up.

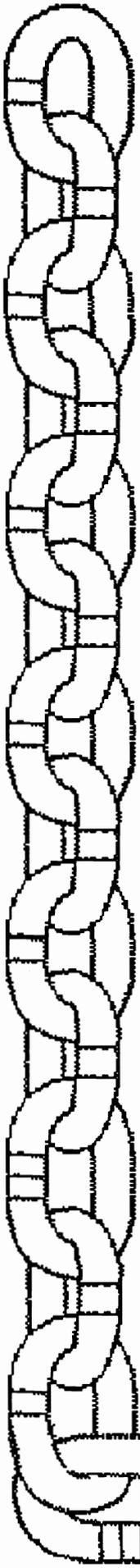
Now, I have seen documents of chained photo scraps where the sections are "copied" and overlapped in geoPublish, but I feel it is actually easier to butt them up against each other. When over-lapping, even a one-pixel displacement can be disastrous.

I always "cut" every scrap. Not only does it make them easier to line up, but it shows where to move the drawing window in geoPaint. The window moves in 8-pixel increments, which actually makes it easier to position it and line up the edit box. Figure one shows the top half of a vertically-oriented graphic in the proper position for cutting. The edit box is placed tightly around the artwork, but will "jump" to the nearest 8-pixel line when cutting. When your graphic fills the whole window, just double-click on the edit box tool.

The scrap is immediately moved to a photo album. With some artwork (such as this chain border), there may be many sections that look similar. It is very important to keep track of the order they are stored in the album. One solution is to use a print-out of the full page or of a "thumbnail" of the page with each section numbered with the corresponding photo album page. I put the scraps in the album, each on top of the preceding one, and take them back out from the back page moving forward.

Figure two shows where the bottom part of the graphic is cut. The art doesn't appear to be all the way to the left, but the white space is actually part of the picture. When the two scraps are cut this way and their left borders are lined up on the same vertical pixel, the flower stems will exactly line up.

Since you will be aligning all of the left borders, it's a good idea to make guidelines on the Master Page. Make a note of the numerical locations of guidelines to place the crosshair.



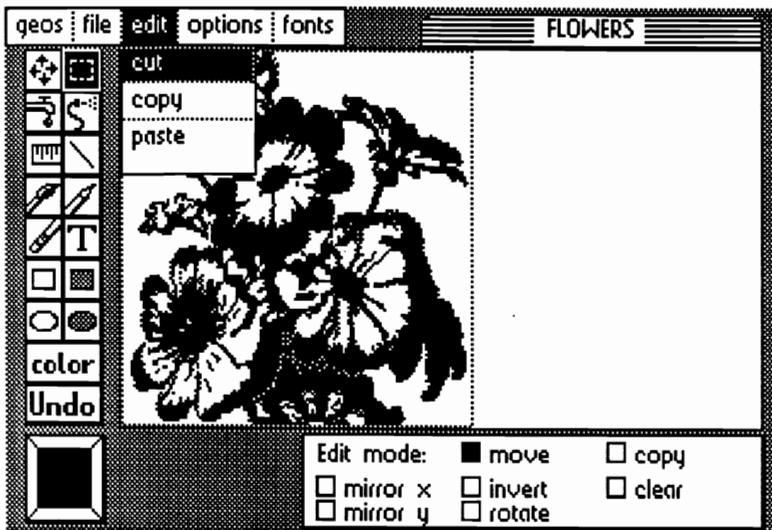


figure one

In figure three, the first photo scrap is imported into geoPublish as a bitmap (see manual), with the crosshair on the guideline. It can be done in preview display if you make sure the numerical location of the crosshair is the same as the guideline. I usually work in zoom display so I can see how the pixels are lining up.

If you use preview display to import the second bitmap, again use the numerical location to place the crosshair. Moving the rectangle to butt up against the bottom of the first one must be done in zoom display (figure four). It may take several tries to move it into the right position. By clicking the

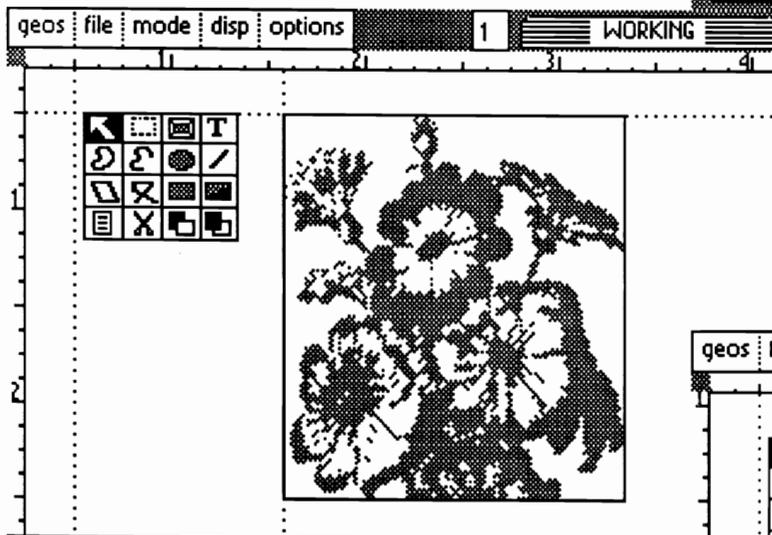


figure three

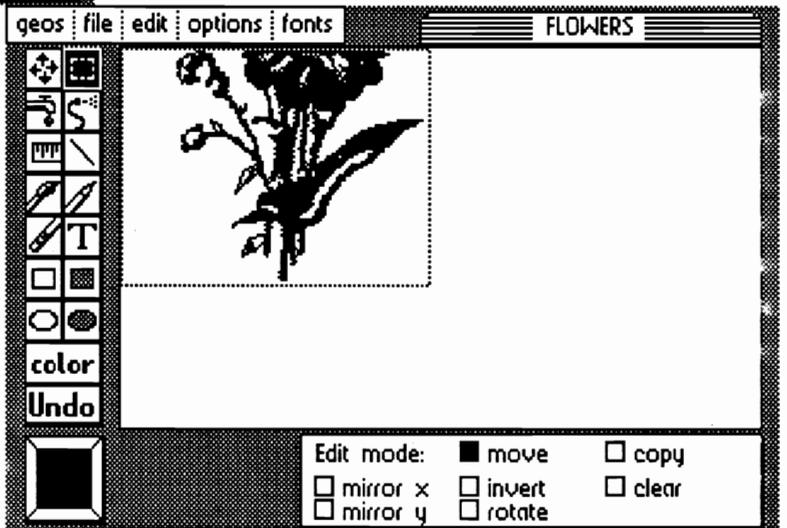
"update" icon after each move, you can see if you've overlapped or left a gap between the two pieces.

It is possible, but difficult to enlarge the bitmaps as they must have the same scale. It requires a lot of trial-and-error since geoPublish doesn't have any measuring capabilities. If you try this with two photo scraps, cut them the same size and enlarge the bitmap rectangle to the same dimensions.

When importing a full page border, the best procedure is to cut five 80 column-wide photo scraps. Start in preview display with the cross hair near the top of the page. Note the vertical number so you can put the others on the same line. For the second bitmap, put the crosshair on the pixel under the last pixel of the first one. Then go to zoom display to make adjustments.

It is possible to accurately place them all in preview display by using the up-and-down cursor key. The crosshair moves four pixels in zoom display for every one in preview display. This is something that really takes practice, but once you've mastered the technique, is really quite easy.

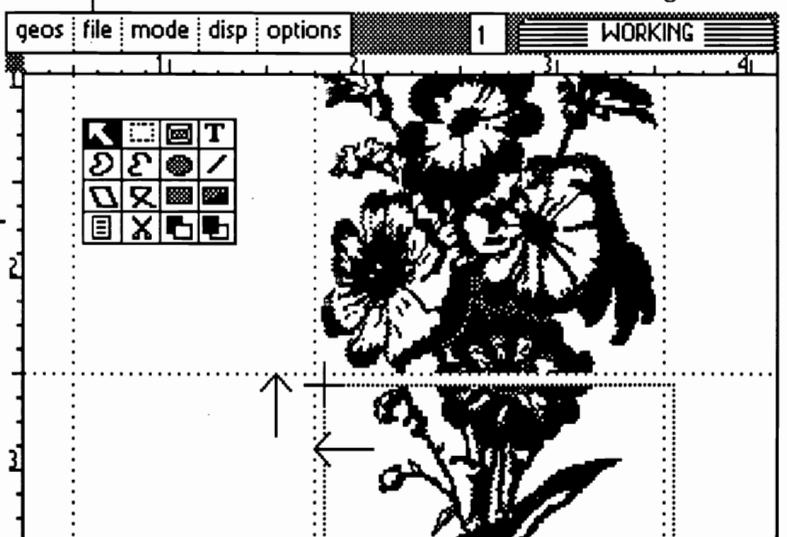
figure two



GGEOWORLD Disk #2 will include a full page border that is made up of 12 bitmaps. You can use this border for flyers, signs, ads, or other projects. It will also serve as an example of just how the photo scraps are cut and how they fit together.

I now have a new address: 3575 E. County 18th St. Yuma, AZ 85365, or contact YumaLamb on Q-Link.

figure four



# WILL GEOS SURVIVE ?

By Marshall Kragen

This article is the result of considerable anger and frustration which I felt after attending the World of Commodore show at Philadelphia in early November. I first posted my thoughts about this on Q-Link and promised to elaborate further. I am not saying here that I have any answers to my concerns. Indeed, it is the very lack of a ready solution that concerns me.

What I am instead seeking to do, is to lay down the gauntlet to Berkeley Softworks, other programmers of GEOS software, users of it, and perhaps, (if it is reachable at all), Commodore itself, to begin to find some of the answers. Remarkably, since I began this article and first wrote those words, my frustration has grown, due to the attitude recently shown by BSW in its dealing with customer service and its attitude in general towards its customers.

What had me concerned about the World of Commodore show, is that although Commodore advertised and played up to the public that it was a Commodore show, when you arrived, you found that this was hardly the case. All Commodore had on display were Amiga computers and that was all their sales personnel had any interest in discussing. Except for the noticeable exception of BSW and a few others, the exhibitors were all Amiga related.

BSW had sent three knowledgeable staff people, were located in one of the most attractive booths and were getting a lot of visitors interested in their software. As for Commodore, the message almost seemed to be, *we don't want to be the bearers of bad news, but all of you 64/128 users here get the message... we are abandoning you.*

It is difficult to understand why they are abandoning computers that still sell strongly and

which, with the advent of GEOS, have the potential of being competitive with other machines. I personally think that for most every day uses, a Commodore 128 equipped with a REU and GEOS, is more comparable to the needs of the average user of a Macintosh computer than an Amiga would be.

Perhaps it is Commodore's own embarrassment at realizing that they have invested so much money in the Amiga, a computer that is useful only to highly graphics-oriented users, that has led them to shun the new powers of their 8 bit computers using GEOS.

I, for one, have come to find my Commodore 128 using GEOS to be indispensable and not something I would ever willingly give up. How I use it in running my law practice was set forth in a previous article here in *GEOWORLD*. That I am not alone in my thinking can be seen from the poll results published in the December 1988 issue of *RUN* magazine. It found that in virtually every category, GEOS programs were favored by a considerable margin over all others. A noticeable exception was word processors, where *Paper Clip III* kept its loyal followers, for reasons I can understand.

*Print Shop* may have been shown as being more popular than *geoPublish*, but this is an anomaly that does not bear out under deeper examination. *Print Shop* has one of the largest followings of any software product for any computer. This is not to say that those speaking in depth of desktop publishing would consider it a realistic alternative to any publishing program. But if there hadn't been a *Print Shop* there would have never even been desktop publishing.

With GEOS being so popular, it must be admitted it has considerably changed the perception of Commodore's 64 and 128

computers from just games-oriented computers to ones that have extremely serious uses and have powers far surpassing those of other computers. What must be done then, is to let others become aware of this, so that the GEOS universe, and along with it the Commodore 8 bit universe will grow, not shrink, or as Commodore envisions it, be abandoned.

One of the most surprising phenomena in the area to me is that, despite the fact that GEOS was bundled with 64C computers for a long period and therefore had an automatically wide installed base of users, it is still virtually unknown to many Commodore owners. I was recently asked to speak to a users group in my area after I offered them a disk of what I thought were the best public domain GEOS programs on Q-Link. It seems that virtually no one in the group used GEOS products.

When I inquired as to why, they said the programs just weren't useful and gave an example that when using *geoWrite*, you couldn't place a graphic any place but in the middle of the page. When I asked them, they said they had never even looked at *geoPublish*, and in fact put their newsletter out by the old-fashioned cut-and-paste method.

Another friend was trying to get out a letter for those invited to her son's Bar Mitzvah that would look handwritten, yet be printed. I told her to forget commercial printers and I typed it out using the cursive font on *FontPak II* and the new Epson FE printer driver I recently downloaded from Q-Link. She couldn't believe there was a software program that would allow her to get the same results on her family's C-128 computer.

These people must be reached so that they will insist on continuation of the 8 bit computers from Commodore. Somehow they are being missed. Those now owning GEOS must be shown its capabilities and those not now owning it must be

encouraged to seek it. My friend left me to go to a software store to get GEOS 128 and I feel sure others would do the same. Although BSW advertises heavily I would suspect that people like her never read the computer magazines where their ads appear.

Advertising in magazines like *Time* or *Newsweek* would probably be cost prohibitive and of no real value. This doesn't mean that an attempt shouldn't be made to let those seeking useful computer programs to know GEOS is there. The end result may be, (and hopefully would be), those seeking to buy a computer would get a Commodore 128 because it has the software that most meets their needs.

Even more, it must be assured that the GEOS universe grows. BSW must see to it that it continues to improve and expand its markets. Other companies need to be encouraged to make GEOS compatible software so that it will indeed become THE operating system for Commodore.

Likewise, those presently supporting GEOS such as Red Storm, Mystic Jim, Susan Lamb, Dale Beach, TT Graphix and others must continue to make their software and be supported by those using GEOS so they will not look elsewhere.

An example of how there is no real support, is that *Graphic Storm* by Red Storm (Joe Buckley) was rightfully one of the most heavily downloaded programs on Q-Link. The program asked that \$3.00 be sent to the writer but out of the first 300 downloads only 5 sent the money. With support like that I would be the first to move on to a new computer.

Even more, there must be ready explanations and help available to those first seeking to use GEOS. Starting to use a new operating system is frustrating to any computer user, but is doubly so to Commodore users because they are not sophisticated computer users in the first place. They could easily abandon GEOS if not helped.

Yet despite this, BSW has now abandoned its telephone customer service and cut down the presence of so-called "GEOS Steve" on Q-Link with those answering not seeming to have the breadth of knowledge previously demonstrated.

It is amazing that this company does not realize, that for a serious manufacturer of software, customer support is a requisite. People cannot be expected to fully comprehend such complicated programs nor make use of them without help from the maker.

Nor can it be expected that these people will even own a modem, much less be able to post their questions on Q-Link and get back answers they can fully understand. With BSW stumbling so badly it must be questioned whether the company is either in seriously bad financial condition due to the low number of Apple sales, or if it has just lost its ability to function.

One must think of Apple, finding itself having grown as much as it was going to grow and beginning to falter under Jobs, with new management having to come in to rescue the company. Perhaps only a change at the top of BSW will change that company as well.

Worse, BSW has yet to come to the aid of those volunteering to answer questions there, meaning that one by one as their Q-Link bills become too great, they drop off. The returns to both Q-Link and BSW from having these people available are so great it just makes no sense to ignore their potential.

Magazines like *GEOWORLD* are also extremely important to this effort. By helping others to obtain the best use of their systems they are helping them to grow and sharing in the expansion of the GEOS universe. This is especially so when they are coupled with products like the *GEOWORLD* disk which provides useful software to use with the system.

What I am then saying, in essence, is that I find that my

Commodore 128 equipped with GEOS is something that I could not and would not do without. It is the system *par excellence* for my computing needs and I, for one, do not intend to see it die anytime in the future. Yet there must be a concerted effort for all to open their eyes to the fact that there is not necessarily a need for a new computer that is another generation ahead.

Commodore might want to see everyone trade their computers in for something new and advanced but it is not going to happen. I for one would never buy an Amiga, I would just switch to Macintosh. After all, it is the Mac-type system which I like. What must be realized is that Commodore and GEOS can grow, and grow together. I urge all involved not to abandon the ship but instead to help keep the ship seaworthy.

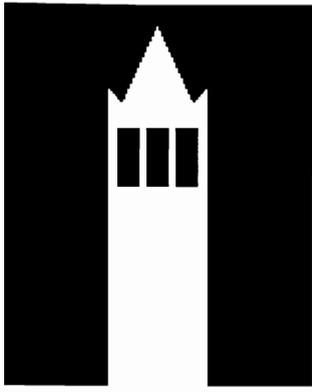
I am interested in the views of others and if nothing else, hope that this article will start a dialogue. I hope to hear from BSW, CBM (purely a fantasy), and other users as to where they stand on this matter. You may contact me by E-Mail on Q-Link by writing Marshall.

---

As this issue goes to press, *GEOWORLD* received a copy of the long-awaited GEOS 128 2.0. The new demo included on the back of one of the three disks addresses one of the concerns Marshall has raised in his article. That is, of showing Commodore 128 owners (or those contemplating purchase of one), just what GEOS can do.

The demo disk consists of a short introduction file and separate demonstration programs of *geoCalc*, *geoFile*, *geoPublish*, *Desk-Pack Plus* and *FontPack Plus*. This will show prospective users just what the system can do for them. The demo makes it obvious that a C-128 computer equipped with a 1750 REU and GEOS answers the question, "What could I do with a computer?"

BSW needs to get this demo to the uninitiated. Next month we will look at GEOS 128 2.0 in depth. Will GEOS survive? We say yes!



# the GEOS Report

This month GEOWORLD begins a comprehensive report on GEOS written by Mike Ross. It contains a brief history of GEOS as well as practical information on it's use. This report should be of interest to beginners and long-time GEOS-users alike.

## Soul of an Old Machine

My old **Commodore 64** is starting to look like an old Buick. None of the angularity of the new generation of personal computers with their sleek lines can be found on the very machine these words are being typed into. The old gal seemed a likely candidate for retirement.

There was so much going against this little computer. A 40 column screen is horrible for word processing. A one megahertz clock, the slowest disk drive in the business, and a 64K memory make this little computer appear to be a true anachronism. **The computer does not even have a DOS!**

The default I/O peripheral is a datasette, read that, *tape cassette*. When the machine was first put into the marketplace, the very idea of a home user needing a disk drive was deemed an oddity. These are the things that give the old 64 its reputation as a toy.

So why does this little machine have the largest base of users in the world? Why has it endured?

I like to call the 64 the Volkswagen of the computer industry. Definitely, the machine has a corner on the low end of the market. It's user base is in the home. The average user is as stingy with their money as can be imagined. Beyond it's economy, the machine has capabilities you would spend thousands of dollars for on an IBM-PC to compare.

Originally designed as a gaming machine to compete in the video game market of the early

eighties, there are a myriad of standard features that make this computer stand out. There are sixteen colors (256, if you use half-toned graphics), an alternative graphics character set, sprites (movable object blocks), three different character display modes, two different bit-mapped screen resolutions, and a three-voice Sound Interface Device (SID) chip.

The 6510 processor chip is a variation of the 6502 chip. The chief differences are in alterations that were designed for the ULTIMAX game system that never materialized. The chip contains an I/O port that controls RAM, ROM, and I/O. The 64 itself has 64K in RAM, 20K bytes of ROM (including the interpreted basic that is present at power up with the standard character set), and can access I/O devices in 4K chunks of memory. It is an eight-bit computer with a 16 bit address bus. The 6510 manages all this extra data at location 0 (for data direction) and location 1 (for I/O).

The datasette, of course, went the way of the dinosaur (although it is used widely overseas). Disk drives came into normal usage. Since the 64 itself doesn't have a DOS (Disk Operating System) in hardware, the drives are intelligent peripherals in their own right. The 1541 disk drive has its own 6502 microprocessor, 2K of RAM, two 6522 I/O chips, and a DOS permanently stored in 15.8K of ROM.

The 64 communicates with the 1541 drive in several ways:

1) Through the **LOAD**, **SAVE**, and **VERIFY** commands. These are the BASIC commands used for storage and retrieval. This is the

level the novice user will use. A typical command would look like: **LOAD "FOOFILE", 8, 1** -- The **8** would be the device number, the **1** identifying the program as machine language (not BASIC).

2) Through I/O, using the command channel. This channel is used to send basic disk operations such as formatting, scratching, and renaming. A typical command channel communication would look like this:

```
OPEN 15, 8, 15 (Open <file #>, <device #>, <channel #>)
```

```
PRINT #15, "NO: <Disk-name>, <ID>" (formats a new disk)
```

```
CLOSE 15 (closes the channel)
```

There are a number of DOS "wedges" and utility programs that simplify the above commands, but the DOS is not very friendly.

3) Through I/O, using data communication channels. This is for direct-access programming and includes: block read and writes; memory read, write, and execute; and block allocate and block free. The format is similar to the communication channel, and it is unlikely that the average user would ever use these commands directly.

When a disk is formatted, 35 tracks are created, the 35th track being the innermost track. Track 18 (smack dab in the middle) is used for the directory. The number of sectors varies from track to track. All together there are 683 sectors that can store a potential 176K. Each sector contains a header block and data block, separated by sync marks. It is beyond the scope of this report to go into detail concerning the exact makeup of the standard commodore

sector, but more will be said on this in the GEOS section on VLIR files.

To access the directory of a given disk, the command, **LOAD "\$",8**, followed by, **LIST**, accesses the directory listing. The **BAM** (Block Availability Map) is stored on track 18, sector 0.

There are four basic file types available for use.

1) Program -- Used to store BASIC and Machine language programs. The first 2 bytes of the first sector of a block contain sector/track pointers, the next two bytes contain Low/Hi load addresses (mandatory for machine language code as it is not relocatable, but is ignored for BASIC programs), and the following 252 bytes are used for data. Successive blocks do not need the Hi/Low bytes.

2) Sequential -- Has the two byte track and sector pointer and 254 bytes of data. It is akin to sequential file formats in other systems.

3) Relative -- also known as random access files. A relative file is actually two files in one: a sequential file with records of fixed length and a file of track and sector pointers (the side sector file). This file type is designed with record storage of varying data structures in mind and is designed for fast access. (**NOTE: GEOS does not support the relative file so no more will be said about it.**)

4) User file -- is designed by the user and is therefore structured outside the normal DOS.

The average user probably uses some sort of wedge program to make his/her DOS life easier. In addition he/she probably has a "fast-loading" utility (most likely as a cartridge, complete with wedge). Fast-loading skirts the normal handshaking that goes on between peripheral and computer and more will be said on this in the Disk Turbo section.

Commercial software that creates application data files (like a text file) usually have an easier DOS in them. However, even the "Wordperfect"-class 64 word processor, "PAPERCLIP", requires the user to specify file links for text that exceeds the allowable text buffer

created by the program. With the limited memory of the 64, this is a frequent situation that drives users to the PC world.

In addition, there are only a few groups of integrated packages that allow different applications to speak to each other. The 64 (and Commodore 128) do not use a standard ASCII by default. communication to a printer (or modem) requires translation. For printers, this means a wide assortment of hardware interface devices and elaborate printer set-up files in software. Each new piece of software means reconfiguring yet another set-up file.

Most computer enthusiasts work it through and are usually content in the long run. But, this incredible diversity of available programs, few of which could speak to each other, pointed out to a severe deficiency of integration of applications coupled with a confusing DOS.

It was time to retire the old Buick but . . . **Then came GEOS.**

## Sky Tray and ICE

There was a time, in the mid-eighties, when the video game was king. The world was one big game of PAC-MAN and Asteroids. It was a phenomenal time of growth for a fledging industry. This growth preceded the first big outgrowth of personal computers.

Mattell, the toy company became a big player in this industry and had its own crop of software engineers. Seeing that the future looked bright, one Brian Dougherty left Mattell, and with two other players, founded the company known as Imagic.

Imagic had an amazing period of growth. But the wind died after the windfall when the bottom dropped out of the video game industry. The industry all but died, even though it has gone through a very recent resurrection.

Brian Dougherty argued unsuccessfully to the other founders for more diversity. Dougherty left,

and Imagic filed a Chapter 11 bankruptcy.

With six other founders, Dougherty formed **Berkeley Softworks (BSW)**. The video game industry was dead but the personal computer was on the rise. Berkeley Softworks spent much of its resources to video game conversions to personal computers.

On the side, during this time, Dave Durran, a hardware specialist working for BSW, was busily developing an In-Circuit Emulator, known as an ICE Unit. The ICE unit was intended to give the development cycle a speeded-up advantage and degree of technical sophistication that would offer software developers a definite edge.

Berkeley Softworks set out to market the ICE unit. Unfortunately, this hardware tool was too highly specialized for the market it was intended to cater to. In addition, the overhead of servicing and repair of the units made this unit a marketing failure. Several units were sold over a period of several months, but that was it. Another dead end

Meanwhile, not to be daunted, BSW hooked up with an outfit that specialized in sophisticated and powerful small batteries. Together, the two companies set out to develop a product for the airlines, dubbed the Sky Tray. Here was an idea to put battery powered computers on airline seating trays. Like a laptop, these computers would come with a liquid crystal display and membrane keyboard.

Berkeley was to develop the operating system for the Sky Tray, a 6502-based machine. The idea was to have a Macintosh-like operating system -- a menu-driven, icon based environment for the user to interact with. There were some differences. The Sky Tray had no file management capabilities, based upon the nature of its usage. The code was written.

However, the law was also written that permitted deregulation of the airlines. It was the airlines turn to have their fallout. Cost-cutting measures were the order of the day. In addition to the cost of the

Sky Tray, even the added fuel consumption the minimal weight of the computers would add was a factor in the airlines dropping the idea of computers on board.

Once again, the market had turned sour on Brian Dougherty and associates. Berkeley was left holding the code for an operating system that had no home.

As history would have it, Dougherty observed that the Commodore 64 was a 65xx-based machine with no real operating system on board. Here was this incredibly huge market of low-end users, whose needs for an operating system could be met with a minimal amount of translation of the Sky Tray code. It was on this newest venture, GEOS, which is an acronym for **Graphic Environment Operating System**, was born.

It became Dougherty's vision to set an operating system standard of the low-end computer market. This standard would unify the eight-bit computer market. First things first, the Commodore 64 became the first target. (The Apple line has PRODOS in hardware on a card.)

In 1986, GEOS hit the market. Two years later, there are 2 million copies of GEOS sold and/or distributed worldwide, which is on the order of Microsoft Windows. In 1987, GEOS for the Commodore 128 was released, and in April, 1988, Apple GEOS for the Apple II line was released.

In general, GEOS itself is a full fledged operating system loaded from disk. The kernal, which stays memory-resident, is its heart. Idiosyncrosies in the kernal can be traced back to vestiges of the Sky Tray.

What the user sees upon booting up GEOS, is an application called the **DESKTOP**, which is essentially the file manager. The desktop puts the user in the **WIMP** environment (**Window, Icon, Mouse, and Pointer**). The average user will identify this file manager with the operating system itself. In fact, the average user first purchased GEOS, not for the operating system, but for

the two major applications also supplied on the boot disk, **geoPaint** and **geoWrite**. During this early time, this was the extent to which there were specific applications that utilized the different GEOS kernal. These application were not hold-overs from the Sky Tray, but developed exclusively for GEOS.

A user could boot GEOS and run non-GEOS programs by double-clicking on the icon of the program they wished to run. The new program would load, leaving the GEOS environment. This was a little ridiculous, and no one would have purchased GEOS, if this was all it was for.

Unbeknownst to the naive user, upon booting GEOS and entering the desktop, they have installed a new kernal that, in addition to I/O and file handling, is chock full of sophisticated graphics and string handling routines. Theoretically, applications can be written that require calls to the kernal's jump table, in which, by passing along the proper parameters, sophisticated graphics-handling routines can be invoked.

Programmers taking full advantage of the kernal need not re-invent the wheel with each new application. This should reduce a programmer's development time. As other third-party vendors recognize this, Berkeley hopes for a lot of non-Berkeley GEOS applications and utilities to be put out on the market. This has started to happen, although it has taken several years to get the ball rolling.

What the user felt he was getting for his money back in 1986 was the ability to intermix graphics and text, in the MacIntosh style. This was made possible by putting GEOS on a high-resolution bit-mapped screen. It has a resolution of 320 by 200 pixels. 8000 Bytes are used to display the screen (200 scanlines by 40 bytes per line). All characters to the screen are bit-mapped from a large selection of proportionally spaced font as are the graphics. It became possible for a user to create a graphic in geoPaint, and paste it into a text document.

In addition, and most importantly, GEOS utilizes a file format called **VLIR** (**Vertical Length Index Record**). This BSW-created filetype keeps an indexed table (essentially a linked list) to the various records of a file. To the user, this means, he can create data files that exceed the length of available buffered memory set aside for data. GEOS creates the links, not the user (see the PAPERCLIP example in the first section for an example of opaque-standard Commodore DOS). If not for the slow disk access, the user has a sense of virtual memory through GEOS's module swapping.

GEOS has its own disk turbo routines. 50% of GEOS code is taken up with disk accessing routines. In my conversation with Berkeley Software engineer, Matt Loveless, Mr. Loveless felt that the disk turbo code is the most elegant section of the kernal. It was developed by Doug Durran for Berkeley. More on the code later. Disk turbo was necessary as GEOS's bit mapped applications are memory-starved.

Power GEOS users have purchased Commodore RAM Expansion Units. These REU's can be configured to RAMdisk (or shadowed drives). GEOS really takes flight with the REU, simulating disk I/O in RAM at the speed of the 64 itself.

Here is an example. In geoPaint, the user draws in a window which is roughly 1/14 the size of an 8 1/2 x 11 inch sheet of paper. When the user scrolls to a different location on the "page", the disk drive will swap out only that section of bitmap no longer visible and load in (using the index table), the appropriate data. Using the standard hardware drive, the user will definitely notice a wait for the drive to do its business. With the REU in RAMdisk, there is total transparency to the swap.

I have created geoPaint images of over 40k in size. Without VLIR files this would not be possible considering, in addition to the kernal loaded into main memory, there is also the geoPaint application program itself. You will see some graphic examples in the cook's tour

desktop coming up.

It was geoPaint, in my opinion, that was directly responsible for the initial sales of GEOS. A lot of GEOS benefits were transparent to the user. When the user realizes that I/O is being handled for him, and that file management no longer requires complex commands, it is then that GEOS hits home.

Today, there is a broad base of applications utilizing GEOS, and I'll review them in the next section. In review, here are the basics of what the kernel has to offer both the program developer and end-user.

- Pull-down menus
- Icons
- Proportionally spaced fonts
- String I/O routines using proportionally spaced fonts
- Dialog boxes
- Complete graphics library
- Complete math library
- Multitasking from within an application
- Fast disk access
- Paged file system
- Complete set of printer interfaces and input drivers
- Postscript compatibility.

In addition Apple GEOS offers hierarchical file structures (tapping into PRODOS) and multiple file transfer.

As we shall see in the next installment, Dougherty's vision of a new operating system standard is coming into fruition.

--Mike Ross



In next month's installment, take a guided tour through the GEOS environment. Although descriptions are GEOS 64 specific, significant differences of the 128 and Apple versions are given.

The report includes complete descriptions of each application and desk accessory, their menu selections and operation. This is must reading for beginning GEOS users and of great interest to all.

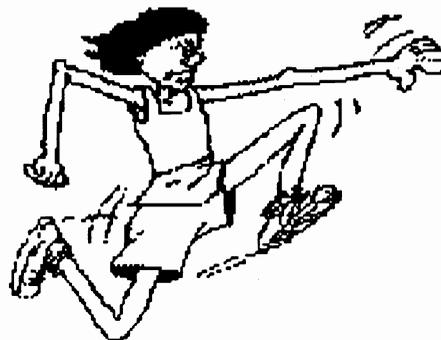
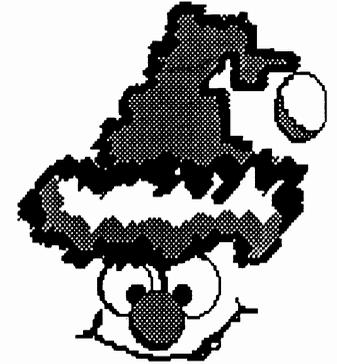


# CARTOON CLIP-ART for your Publishing Projects

By Susan Puhn-Lamb

At last there are cartoons available in GEOS clip-art form. These aren't tiny Print Shop graphics that become blocky when enlarged, but real cartoons created the old-fashioned way, with pen and ink. They are then digitized with Computereyes and converted to geoPaint format. The cartoonist is Dale Beach (*CartoonKid* on Q-Link), a professional commercial artist who has quite a bit of experience using geoPublish.

A laser-printed brochure that Dale made up using his cartoons is very well done and funny.



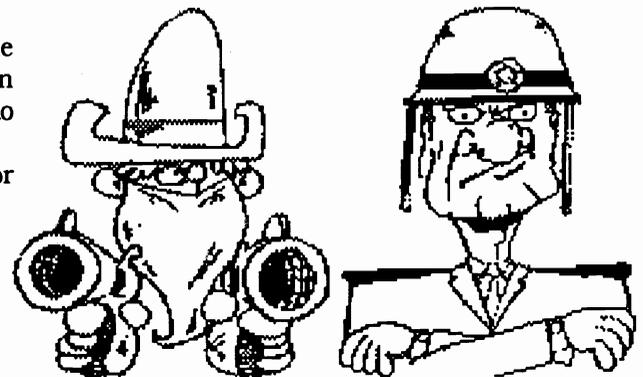
These cartoons may be just what you need to spice up your newsletter, newspaper, flyers, or advertisements. They can be altered in geoPaint to fit your specific needs. Many are nice and big, of drawing window size, so won't need to be enlarged.

LOTS of cartoons are included on Dale's first disk which will also include a nice 22 point all-caps font and a

newsletter. We will include five of his cartoons on GEOWORLD Disk #2 to whet your appetite.

Send \$6.00 check or money order to:

Dale Beach  
7048 Michigan Street  
Elwell, MI 48832



The comic-strip characters across the bottom of the page are from a 48 point font created by Brody K and available on QuantumLink. They can be typed in bold, italic or reverse for a different effect. Since this is a font, the comic characters can be typed anywhere on a geoWrite page. I particularly like to use these well-drawn characters when typing personal letters, using my favorite comics to make the reading more fun.

The good news is that a couple of these comic fonts will be included on GEOWORLD Disk #2, along with other fonts by this talented fontmaker.



## GEOWORLD

# PLAYING GAMES WITH GEOS

BY JOHN TACKETT

We are all aware of how great GEOS and its various applications are. With it we can draw, write, publish, file and almost anything else. But are you aware that you can play games with GEOS? Yes, not only can you write your term paper but you can beat the house, conquer the world, or just test your knowledge of states and capitals. In this article, I hope to enlighten you to some of the other uses of GEOS.

Now, most of you are aware of the Blackjack game that is available from Berkeley SoftWorks. It came on the DeskPack disk, and for the most part is the first game ever created for the GEOS environment. When I booted up my deskPack disk, I was a little perplexed as to why BSW put a game on the disk. But as soon as I played it, I became hooked and found it difficult to stop playing. Also, the fact that it is a desk accessory meant that I could play it even while I typed up this article without leaving geoWrite. From what I know about the game of blackjack, this game follows the rules very well and I especially like the sound effects when the deck is being shuffled.

On a scale of one to five, I give Blackjack a solid four.

Another game that's also a desk accessory was one of the contest winners in the GEOS programming contest. StatesNCaps by David Hal is primarily geared toward the younger users of GEOS, but I must admit that I couldn't resist trying my hand at it. (Did you know that Concord is

listed. As you pick the answers, you are told if you are correct and a running total of your score is kept. This program is shareware and at the end of the game you are asked for a donation. This game rates a 3 1/2. Oh, by the way, you can download it from the contest library located in the GEOS Arena on Q-LINK.

Our next game comes to us courtesy of the GEOS Power Pak disk from RUN magazine. GEOBreak, written by Wayne Dempsey, is a variation of the popular game, BREAKOUT, (or, for some of you newer users, ARKANOID). The object of the game is to hit the bricks across the top of the screen. This is one game where the joystick is preferred over the mouse. The game is fun to play but I wish I could save my high score. This one also rates a 3 1/2.

Blackjack isn't the only game that uses playing cards. There's SOLO POKER by Ken Turner. The name though, can be a little misleading as it is not like poker that you're used to playing. You are faced with a screen of 25 spaces, 5 columns by 5 rows. The object of the game is not only to get a good poker hand horizontally,

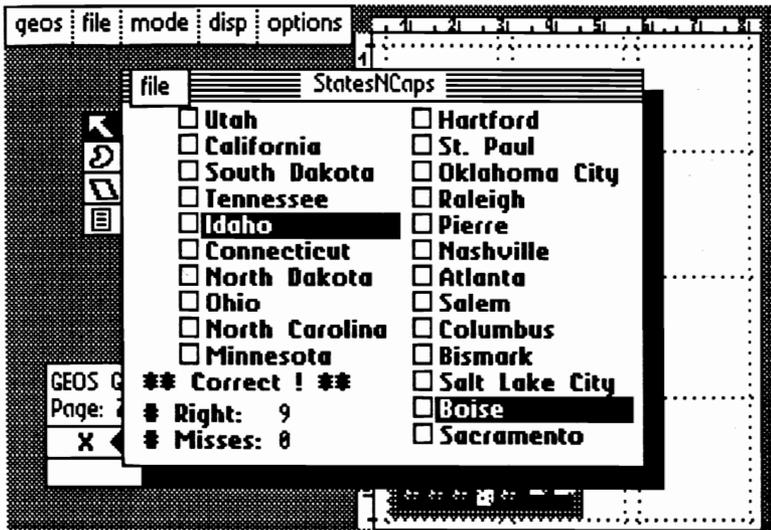
---

WITH THESE  
GAMES GEOS  
GOES FROM  
BEING  
PRODUCTIVITY  
SOFTWARE TO  
ENTERTAINMENT  
SOFTWARE

---

the capital of New Hampshire?)

When you run this game you're presented with a screen of two columns, one of States and the other of Capitals. There are more capitals than states, which keeps the process from being too easy. The object of the game is to correctly pick the correct capital for each state



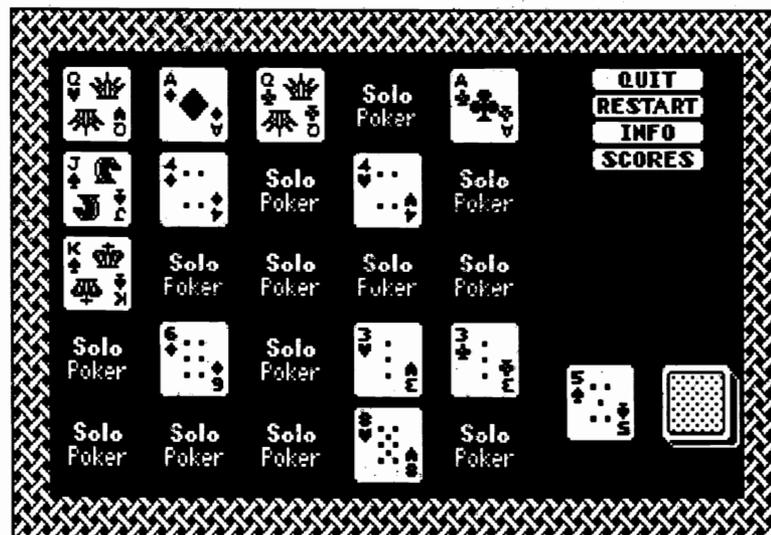
consuming so I am thankful that the author put in a save option. You are also allowed to vary different rules of the games providing an even more challenging game. The screen is in color and allows you to easily see who has what countries. This game is a solid five and a must-have in any GEOS library. You can download this fantastic game from the Contest Library in the GEOS Arena on Q-LINK. This game too is shareware and a donation is requested.

I hope that I have made you aware of the many games that are available for GEOS. A special thanks to all of the game creators. If you know of any other games for GEOS please drop me a line on Q-LINK. My name is JohnT27.

Now, if only someone would create a Star Trek game for GEOS, then I'd be happy.

but also a good hand vertically. This is one game that challenges you, as placement of your card can decide how good your score will be. After filling all 25 spaces, your score is added up. This game is a worthy addition to anyone's GEOS library and deserves a rating of four.

But the best game for GEOS, as far as I am concerned, is a gem written by Lysle Shields called GEOWar. This beauty of a program is a variation of the classic boardgame RISK, the object of which is world domination. GEOWar allows for up to six players to participate. After strategically placing your armies on the screen, you attack opposing players in the hopes of winning the battle, conquering new lands and expanding your armies. To win the game, you must defeat all other players and conquer their land. This game can get to be quite time-



## GEOWORLD DISK #2

As we go to press with this issue and are finalizing disk #2, we're pleased to announce that the disk will include as many public domain games as we can find. As mentioned in the article, Blackjack is available from BSW and geoBreak from RUN magazine. However, we'll bring you the games on Q-Link, including the contest winners.

Even we productivity-types like to take a break once in awhile to play. The GEOS games that operate as desk accessories are particularly useful when you are working on a RAM disk and don't want to exit GEOS or the program you're working on.

# GEOWORLD

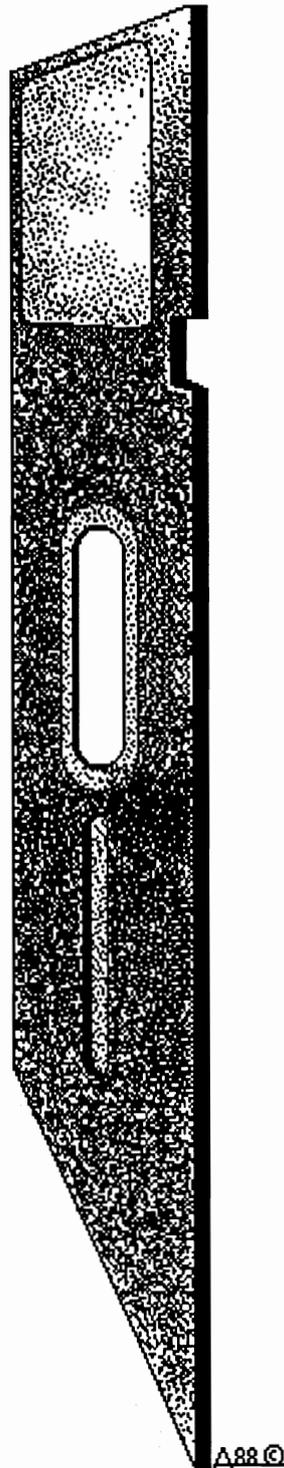
## Disk #2 is now ready.

The GEOWORLD Disk department recently moved to larger quarters which caused a temporary breakdown in order processing. We are now getting organized and yes, computerized so that orders can be more quickly handled and checked on. If you want to check on your order, call (602) 344-3537 for a faster answer.

Disk #2 is packed full of a variety of things to use with GEOS. This issue will include some games to play when you need to take a break. There are also Icons and Patterns to use with programs on Disk #1.

It will be loaded with printer drivers and fonts, designed to get more out of your dot-matrix printer. There is even a driver that can be configured for your particular printer.

There are upgrades of some of the utilities and a corrected version of *Whales* for those of you who received the corrupted one. Thanks for your patience.



For those of you wanting to know what files are on Disk #1, here is a brief run-down:

- UnTrash** - retrieve scratched files
- TransText** - text file conversion program
- Graphic Storm** - graphics conversion
- CONVERT 1.4** - to upload or download files
- Alarm Flash** - visual alarm clock
- WriteView** - view geoWrite files without having geoWrite on disk
- geoDirPrint** - print directories within GEOS
- WrongisWrite** - convert geoWrite document versions up or down
- PHOTO PRINT** - print-out photo albums
- ICON EDIT 2.1** - versatile icon editor w/paste
- ICONS** - photo album of icons to paste in icon editor
- MacAttack** - convert Macintosh clip-art
- 40 SCRIN PRINT** - handy screen dump
- PATTERN EDIT** - geoPaint file used with Set Pattern... shows how to save them
- SET PATTERN** - design geoPaint patterns
- ScraPeek 2.2** - view photo scraps and albums
- Album Reverter** - reverts 2.1 albums back to 1.3 status
- change input** - switch input driver from within applications
- change printer** - switch printer driver from within applications
- LARGE ART** - clip-art album of large photo scraps to use with geoPublish
- Pub Borders & Fancy Borders** - albums of borders by TT Grafix & Susan Lamb
- Popsicle 24, Princeton 24, Rutgers 24, Graffiti 24, Doors 20** - fonts by TT Grafix
- maxiPOSTER & maxiOBLIQUE** - Mega Fonts to use with geoPublish
- Barnum, Charger, Tiny Square, Chop Suey, Shadow Box** - fonts by Ike Riehl
- whales** - GW cover art by Amy Laughlin

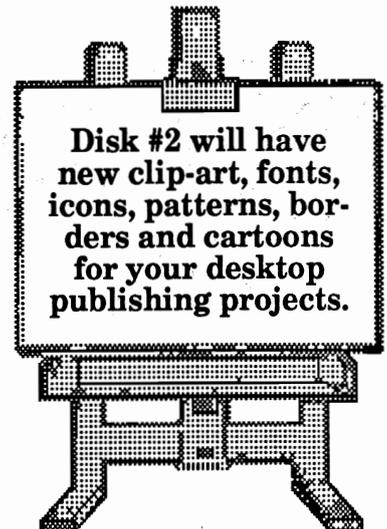
### ORDER DISK #2 TODAY

Disk #1 is still available. Be sure to indicate which number you want.

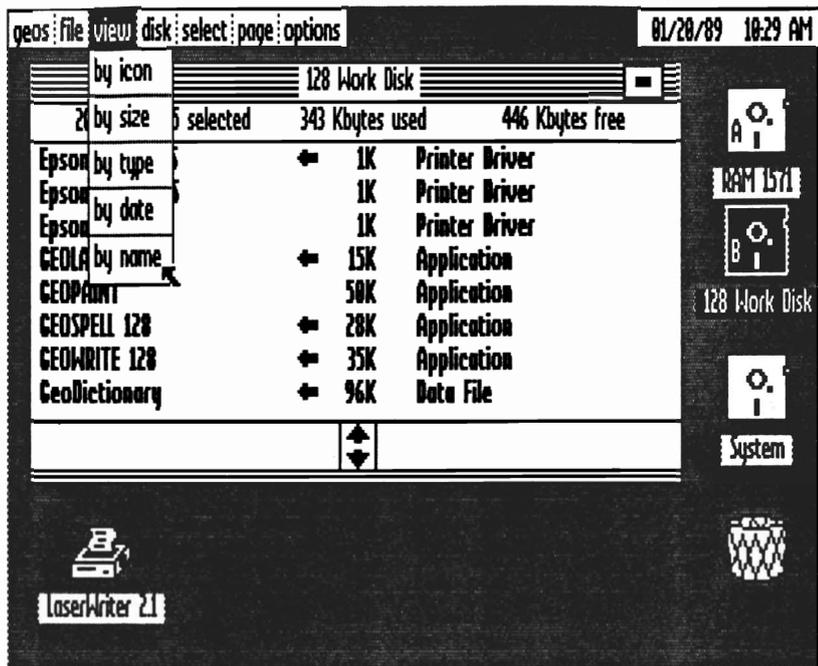
Send \$10.00 check or money order with your request to:

GEOWORLD DISK #2  
38 Santa Ynez Street  
Santa Barbara, CA 93103

For more information, contact GEOWORLD or YumaLamb on Q-Link



# As the world GEOS by...



Greetings Everyone I hope You are enjoying issue 18 of GEOWORLD. By now most registered 128 GEOS Users will have received the upgrade notice for the new GEOS 128 2.0. We at GEOWORLD have only had a review copy for a short time so I will not go into a full review of 2.0 but will only give You an idea of the most interesting features. Desktop 2.0 is much like the 64 version of 2.0 with the exception that a few new keyboard shortcuts have been added. By using the control key along with A or B You can copy selected files to drive A or B. When using this feature along with being able to now select files from the view by text option, it is extremely fast and easy to copy files from a work disk into an REU. 2.0 comes with a whole new geoSpell that runs in 80 columns and is bundled with geoWrite Workshop 128 and the improved geoPaint that can stretch and scale images.. Also in the disk set comes some new double strike print drivers, and much more.

I was hoping that BSW would recognize the need for an optional 3.5" boot disk. With the increased productivity gained by using this little gem of a drive it seems a shame that power users are still confined to using floppies. I have heard that Software Support International, the maker of the Renegade program to make back up boot disk will soon be releasing a new module to overcome the 3.5" boot disk dilemma. It is unfortunate to have a third party fill this void by defeating the copy protection of Commodore GEOS.

On the news front, while attending the Winter Consumer Electronics Show I was able to speak with representatives from BSW who had a small display at the Commodore exhibit. The future plans for BSW

after finishing geoCalc and geoFile for the Apple are to develop GEOS for the IBM PC market! Very interesting, the GEOS family just keeps growing. I was assured by president Dennis Rowland that by no means BSW is abandoning the Commodore users and gave hope that a new form of customer service telephone support is being considered. I was hoping to be able to report more news about the customer service situation, in the next issue look for some important information to be published.

GEOWORLD has grown alot over the past year and with the help of Susan Lamb as editor I feel that it will continue to grow and become even better. We have experienced some problems due to our growth and I thank Everyone for Their patience. Doing the GEOWORLD disk has taken more time than We expected but we have now streamlined the ordering process by using geoFile 128 and the time it takes to fill orders has been cut in half. The new data base for Our mailing list has been changed as well and that has also helped cut My time that I spend maintaining it. Please note that We do not presently send renewal notices out and that You should check the upper right corner of Your mailing label for thelast issue number which reflects Your expiration. Possibly in the future We will send notices but until then please help Us out. Doing GEOWORLD is not how I make My living although it has turned into a nearly full time Job. Please continue to support us by offering articles for publication. You will be helping in a big way to make GEOS better for Everyone.

Until next issue, Roger Ledbetter

# Inside Geos

## A programmer's eye view into the world of Geos

By Master Blaster

Well hello again! In this month's column I'll be discussing the DBGETFILES box and a way to overcome most of its shortcomings.

While DBGETFILES is useful for displaying filenames of a specific filetype it has several serious shortcomings that decrease its usefulness:

- 1) Only 15 filenames can be displayed at a time.
- 2) All the files must be of the same Geos filetype.
- 3) The names must be filenames, they can't be just text strings.
- 4) It's only accessible from within a DB.

I ran up against these limitations enough times that I finally sat down and wrote a module to overcome them. Listing 1 contains a listing of this module. Listing 2 contains a sample DB which will fill the box with all of the files on a disk and then scratch the file that is selected when OK is clicked. Note that while the sample is a Dialog Box this is not a requirement, the file box will run outside of one if you wish.

To use this routine follow these steps:

- 1) Your application will have to fill up a buffer with text strings. These strings can be any length desired (but remember the box is only so wide) and must be NULL terminated.
- 2) To initialize the box variables and draw the box on the screen load the accumulator with the number of entries (this means the maximum number is 255), Y with the width of each entry including the NULL terminator, and r15 with the starting

address of the buffer.

- 3) Now call InitFBox.

That's it! otherPressVector is modified to intercept the mouse and control file selection, scrolling, etc.

If called within a DB the box will be deactivated automatically when the DB is closed. If you are using the box outside of a DB simply load otherPressVector with \$0000 (disable interrupts first). Note that the code is written to position the box inside of a standard DB so if you are using it outside of a DB and you want it in a

***" I ran up against these shortcomings enough times that I finally sat down and wrote a module to overcome them. "***

different place on the screen you will have to relocate it by hand (or modify InitFBox to accept positioning values).

At any given time global variable 'selected' contains the number of the entry selected. Note that this number begins at one so decrement it and multiply by the width of each entry to get a true offset into the buffer.

Because it is possible to have hundreds of entries additional commands are included in the box to allow the user to page up and down and move to the top and bottom of the list. Note that these icons will not be

displayed if there are less than 8 names in the box (there's isn't anywhere to scroll to).

Since the box doesn't use true Geos icons its otherPressVector routine (DoButton) checks for which command is requested (if any) by where the mouse is when the button is pressed. If the mouse is over one of the command 'icons' it will execute the appropriate subroutine. All of the icons except TOP and BOT will repeat as long as the button is pressed to allow faster scrolling.

### Geos Source Disk

Because I know that it's a pain to type source code in without making errors I have put together a disk of Geos subroutines. All of these subroutines are heavily commented, in geoAssembler format, and ready to be pasted in to your own code.

I have included subroutines for sound, error handling, disk I/O, screen manipulation, etc. All of the routines from Inside Geos, including some of the future issues, are also included.

To order your disk just send a check or money order for \$10.95 to:

Inside Geos Disk  
BlasterSoft Ink  
1431 Pacetti Rd  
Green Cove Spgs, FL 32043

Well that's about it for this month. Next month I'll show you some routines you can use to fill the buffer you pass to the filebox. Until then, have fun.

# Inside Geos

**;Filebox Manager** William C. Coleman

```
.if Pass1
.noeqin
.noglbl
.include geosSym
.include geosMac
.eqin
.glbl
.endif
```

```
BOXWITH = 124 ;Width of filebox
NAMEHITE = 10 ;Height of name region
MAX_IN_VIEW = 7 ;Number of files in box
BOXHITE = NAMEHITE*MAX_IN_VIEW+1
BOXTOP = DEF_DB_TOP+4
BOXBOT = BOXTOP+BOXHITE
BOXLEFT = DEF_DB_LEFT+3
BOXRITE = BOXLEFT+BOXWITH
```

```
.ramsect
highest: .block 1 ;Highest entry # in buffer
ontop: .block 1 ;entry on top of window
selected: .block 1 ;Currently selected entry #
nameWidth: .block 1 ;width of each entry
boxStyle: .block 1 ;style of box text
temp: .block 1 ;utility variable
list: .block 2 ;pointer to list
.psect
```

## fBoxIcons:

```
.byte 16,16,0,129,159,15,255,219,152,136,136,136,128,0,128
.byte 0,128,0,128,0,128,0,128,1,152,136,136,136,188,0,191
.byte 0,190,60,190,60,128,128,129,193,152,136,136,136,178
.byte 0,140,0,179,98,179,98,129,192,129,193,159,255,255
.byte 255,188,0,140,0,179,96,179,96,131,224,129,193,152
.byte 136,136,136,178,0,141,192,190,110,190,110,135,240
.byte 129,193,152,136,136,136,189,192,131,96,176,102,176
.byte 219,102,143,248,129,193,152,136,136,136,131,96,131
.byte 96,176,60,176,60,129,192,129,193,159,255,255,255
.byte 131,96,129,192,129,192,128,128,129,192,129,193,152
.byte 136,136,136,129,192,128,60,129,192,129,192,129,192
.byte 143,249,152,136,136,136,128,126,128,54,135,240,131
.byte 224,129,192,135,241,152,136,136,136,128,24,128,60
.byte 131,224,135,240,129,192,131,225,159,255,255,255,128
.byte 24,171,128,48,129,192,129,192,129,192,129,193,152
.byte 136,136,136,128,24,128,48,128,128,129,192,129,192
.byte 128,129,152,136,136,136,128,0,128,0,128,0,128,0,128
.byte 0,128,1,159,15,255,32,7
```

## InitFBox:

```
; Called from a user routine to initialize/draw box
; pass: A - # of entries (zero if no files)
; Y - width of each entry, r15 - buffer of names
sty nameWidth
sta highest
```

```
lda #15
jsr SetPattern
MoveW r15,list
jsr FBoxPtrs ;Set FileBox pointers
LoadB r2L,BOXBOT+1
LoadB r2H,BOXBOT+16
jsr Rectangle
LoadB r2L,BOXTOP
lda #$$f
jsr FrameRectangle ;Outline box
lda highest
cmp #MAX_IN_VIEW+1
bcc 10$
jsr i_BitmapUp
.word fBoxIcons
.byte BOXLEFT/8,BOXBOT+1,16,16
10$: LoadW otherPressVec,DoButton
jmp TopScroll
```

## FBoxPtrs:

```
; sets up box pointers
LoadW r3,BOXLEFT
LoadW r4,BOXRITE
LoadB r2L,BOXTOP
LoadB r2H,BOXBOT
rts
```

## NBoxPtrs:

```
; Set pointers to a filename area in box
; pass: A = box # (0 to max_in_view-1)
```

```
sta r0L
LoadB r1L,NAMEHITE
ldy #r1
ldx #r0
jsr BBMult ;entry height *entry#
jsr FBoxPtrs ;get pointers to box
inc r2L
lda r0L
add r2L
sta r2L
adc #NAMEHITE
sta r2H
inc r3L
bne 01$
inc r3H
01$: ldx #r4
jmp Ddec
```

## FillBox:

```
;Fills the current box with names.
lda highest
beq 05$ ;Nothing to fill with
PushW rightMargin
jsr FBoxPtrs
MoveW r4,rightMargin ;constrain text
dec rightMargin
LoadB temp,0
jsr SetPattern
lda #BOLDON
jsr PutChar
01$: lda temp
```

# Inside Geos

```

jsr   NBoxPtrs   ;get pointers to box
jsr   Rectangle  ;Clear name box
MoveW r3,r11     ;Set up Horiz. text
lda   r2L        ;pointsize+ Vert text
add   #8
sta   r1H
lda   temp
add   ontop      ;Top list entry
cmp   highest    ;Past last entry?
beq   02$        ;Nope, continue
bcs   04$        ;Yep, we're done!
02$:  tay
      dey        ;make relative to 0
      sty   r15
MoveB nameWidth,r0
ldx   #r0
ldy   #r15
jsr   BBMult     ;width * entry #
AddW  list,r0    ;add address of list
jsr   PutString  ;Print name
inc   temp
lda   temp
cmp   #MAX_IN_VIEW
bne   01$
04$:  jsr   Invert   ;invert name
PopW  rightMargin
05$:  rts

Invert: ;inverts 'selected' name box
lda   selected   ;Get name box #
sub   ontop      ;top box #
jsr   NBoxPtrs  ;Set pointers
jmp   InvertRectangle

; Scrolls -- scroll based on mouse's position.
; Called by button press.
ScrollUp: ldx   ontop      ;x holds top item #
          dex          ;Scroll back
          bne   Scroll_  ;must be > 0!
          beq   ScrollErr
ScrollDown: ldx   ontop      ;x holds top item #
            inx        ;Scroll forwards
            lda   highest
            sub   ontop      ; more names past
            cmp   #MAX_IN_VIEW ;bottom of box ?
            bcc   ScrollErr  ;Nope, so beep
Scroll_:  txa
          pha          ;Save new top
          jsr   Invert   ;Clear name
          pla
          sta   ontop
          cmp   selected  ;selected < top box?
          bcs   10$      ;selected not in box
          add   #MAX_IN_VIEW-1
          cmp   selected  ;selected > bottom

```

```

bcs   20$        ; if selected in box
10$:    sta   selected
20$:    jmp   DoAgain ;draw box and loop
ScrollErr: rts

; Far Scrolling - Scroll box to the top, bottom or
; up, down a page. Called by CheckIcons.
BotScroll: MoveB highest,selected
          sub   #MAX_IN_VIEW-1
          bcs   10$      ;ensure ontop > 0
          bne   10$      ;ensure ontop not 0
          lda   #1
10$:    sta   ontop
          jmp   FillBox

TopScroll: lda   #1
          sta   ontop
          sta   selected
          jmp   FillBox
PageUp:   lda   ontop
          cmp   #1
          beq   ScrollErr
          cmp   #MAX_IN_VIEW
          bcc   TopScroll
          sub   #MAX_IN_VIEW-1
          sta   ontop
          sta   selected
          jmp   DoAgain
PageDown: lda   highest
          sub   #MAX_IN_VIEW
          sta   temp
          cmp   ontop
          bcc   ScrollErr
          lda   ontop
          add   #MAX_IN_VIEW-1
          cmp   temp
          bcs   BotScroll
          sta   ontop
          sta   selected
DoAgain: jsr   FillBox ;redraw box
          lda   mouseData
          bmi   10$
          jsr   CheckIcons ;repeat if pressed
10$:    rts

DoButton: ;otherPressVector Button handler.
          lda   mouseData
          bmi   20$      ;ignore releases
          lda   highest
          beq   20$      ;Box empty - exit
          jsr   FBoxPtrs ; mouse in filebox?
          LoadB r2H,BOXBOT-2
          jsr   IsMselnRegion
          cmp   #0
          beq   CheckIcons ;nope
          jsr   Invert   ;Restore selection
          jsr   FBoxPtrs
          lda   mouseYPos
          sub   #BOXTOP

```

# Inside Geos

```

    sta    r0L        ;make a zero offset
    lda    #0
    sta    r0H
    sta    r1H
    LoadB r1L,NAMEHITE
    ldx    #r0
    ldy    #r1
    jsr    Ddiv       ldar0L
    add    ontop      ;Result = selection
    cmp    highest
    bcc    10$        ;not > last name
10$:    lda    highest
        sta    selected
        jsr    Invert
20$:    rts

```

## CheckIcons:

; Checks if icon was clicked on and executes  
; the appropriate dispatch routine.

```

    lda    highest
    cmp    #MAX_IN_VIEW+1
    bcc    40$
10$:    LoadB temp,5
        LoadB r2L,BOXBOT+1
        LoadB r2H,BOXBOT+16
        ldy    temp
        lda    iconXLTab,y
        sta    r4L
        sub    #15
        sta    r3L
        lda    #0
        sta    r3H
        sta    r4H
        jsr    IsMselnRegion ;check if on icon
        cmp    #0
        beq    30$          ;nope - branch
        jsr    InvertRectangle ;flash icon
        LoadW r0,15        ;waste some time
        jsr    Sleep
        jsr    InvertRectangle ;back to normal
        ldy    temp        ;execution address
        lda    loExecTab,y
        ldx    hiExecTab,y
        jmp    CallRoutine ;and 'jump' to it
30$:    dec    temp
        bpl    10$
40$:    rts

```

```

iconXLTab: .byte BOXRITE,BOXRITE-16
           .byte BOXRITE-32,BOXRITE-48
           .byte BOXRITE-64,BOXRITE-80
loExecTab: .byte <ScrollDown,<ScrollUp,<PageUp
           .byte <PageDown,<TopScroll,<BotScroll
hiExecTab: .byte >ScrollDown,>ScrollUp,>PageUp
           .byte >PageDown,>TopScroll,>BotScroll

```

```

;*****
; Scratch - Prompts user for a file and scratches it.
;*****
Scratch:   jsr    GotoFirstMenu
           jsr    OpenDisk
           txa
           bne    10$
           ; GetFilenames is a routine which loads a buffer
           ; called fNameBuffer with all of the filenames on
           ; the disk. Returns # of entries in Y
           jsr    GetFilenames
           txa
           beq    20$
10$:       jmp    DiskError      ;print error box
20$:       sty    GFLFill+1      ;# of entries
           LoadW r0,GetFileDB
           lda    #'A'-8
           adc    curdrive      ;'A', 'B', or 'C'
           sta    onDrvT1
           jsr    DialogBox
           lda    r0L
           cmp    #CANCEL
           beq    30$
           ldy    selected
           dey
           sty    r0L
           LoadB r15L,17      ;* 17
           ldy    #r15
           ldx    #r0
           jsr    BBMult
           AddVW fNameBuffer,r0 ;r0 =filename addr
           jsr    DeleteFile
           txa
           bne    10$
30$:       rts

GetFileDB: .byte DEF_DB_POS|1
           .byte DBTXTSTR,DBI_X_2*8-6
           .byte TXT_LN_1_Y-3
           .word onDrvText
           .byte OK,DBI_X_2,24
           .byte CANCEL,DBI_X_2,DBI_Y_2
           .byte DB_USR_ROUT
           .word GFLUsr
           .byte NULL

GFLUsr:   LoadW r15,fNameBuffer
GFLFill:  lda    #0            ;# of entries (patched)
           ldy    #17         ;width (16 + NULL)
           jmp    InitFBox

onDrvText: .byte BOLDON,"On Drive "
onDrvT1:  .byte "A",PLAINTEXT,NULL

```

Introducing....

## **GEOS Font Collection 1**

Spruce up your GEOS documents with over 30 superb fonts, and create & edit others with the powerful GEOS Font Editor 2.4!

### The fonts:

- \* most fonts in at least 3 point sizes, over 100 different font-size combinations total!
- \* some examples: Liffey 16, Hudson 14, Patapsco 18, **Raritan 18**,  
**Thames 24**, Pascagoula 25
- \* and many more!!!

### The Font Editor:

- \* supports point sizes up to 48 point
- \* all the frills you'd expect from an editor - stash & retrieve buffer, scrolling, horizontal & vertical flipping, photo scrap support, and more!
- \* has a built-in font scaler (developed by the creator of the fonts on this disk) - makes multiple point sizes a breeze - create one, and scale it to the other sizes!
- \* Font Grabber - convert your BASIC 8™, FontMaster II™, or standard Commodore fonts to GEOS format - your old collection is useless no more!
- \* Previewing - print the complete character set, right from the editor! Print in Plain Text, Bold, Italic, Outline, or Reverse without ever loading geoWrite!
- \* versatile save options - by using "fake" point sizes (what you see in the menus in geoWrite), combine up to 7 different fonts into one file - helps to get around the 7 font limit in geoWrite!
- \* other niceties such as a Font ID editor, and for those of you with shaky mice (or any other input device, for that matter), full cursor key support while editing!
- \* runs under GEOS64 and GEOS128 - in 40 and 80 columns!!! (80 columns on 128 only)
- \* and more!!!

All this for only \$20.00! Send check or money order (U.S. funds only) to:

**Comm-Plex Software  
6782 Junction Road  
Pavilion, New York 14525-9755**

Please add \$1.50 shipping/handling per disk. NY residents please add appropriate sales tax. Make checks payable to Jim Collette. Please specify "Font Collection 1" disk.

Fonts by Bruce Gilson, Font Editor 2.4 by Jim Collette.  
Font Collection 1 disk is Copyright (C) 1988 by Bruce Gilson and Jim Collette.

# *World of Commodore - Toronto: The BSW Booth*

By Paul A. Hughes

The 6th Annual World of Commodore Show took place at the Toronto International Centre, Canada on December 1-5, 1988. There were more than 40,000 attendees who went through the show during the four days. The show is always full of many vendors who bring their whole stores to the show. Many attendees save up all year for this event and leave with push carts laden with complete computer systems. The competition of adjacent retailers in the hostile "Price Wars" can become nasty. It benefits the attendee who can wait until the last day of the show, when the prices drop drastically, to make their purchases. That is if what they wanted was not sold out! Prices varied as much as \$5-10 difference in Canadian currency from one vendor to another.

Berkeley Softworks had two small booths off the huge Commodore-Toronto Booth. One could think of the Commodore booth as the hub of a wheel and BSW was one of several spokes. Berkeley was there demonstrating GEOS 64 2.0, GEOS 128 and GeoPublish. In an adjoining booth one of the two BSW people was doing some house cleaning by selling BSW T-Shirts and old GEOS packages such as Font Pack I, GeoDex and Desk Pack I for under \$10.

At least once a day BSW did a Stage Presentation, in front of the Commodore Booth, showing GEOS on a very large monitor. (GEOS never looked so good!) Don McGettigan and Kelly Powell, Customer Service Representatives for BSW, were on hand to man the booth, give the stage presentations and GEOS Clinic Seminars and answers people's questions on GEOS.

My twin brother, Peter and I helped out at the BSW booth for the 4 days. It was exhausting standing and talking from 10 am to 9 pm on Thursday and Friday and 10 am to 6 pm on Saturday and Sunday. Kelly Powell got laringitis after the first day of answering questions on GEOS. She could hardly talk when she did her stage presentations and seminars. So my brother and I took turns doing most of the talking at the booth for her until she got her voice back.

BSW had come prepared with several handouts discussing how to upgrade to GEOS 2.0, how to install system disks, printer drivers etc. Because we used GEOS every day, we were better able to answer many of the questions and problems people had. The BSW people might have lacked experience in a particular problem or company policy prohibited them from discussing such matters. But I do feel for the Customer Service people at BSW. I was in their shoes at the show answering over and over again many of the same questions they get in their Customer Service Departments and online on QuantumLink in the GEOS Arena. Many of the people did not read their manuals and had said "No" when they meant "Yes" in answer to installing their keyed application programs. Many wanted information on how to upgrade to GEOS 2.0, what to do when they got a defective GEOS boot disk in the GEOS they got with their Commodore 64C. Many people, instead of sitting back, taking a breath and trying to discover why something is not working themselves, just panic and demand personal help from BSW to solve their problems. Now I know why the Customer Service people at BSW are exhausted and burnt out. Answering 80 or more calls a day and replying to many letters and messages on QuantumLink would tire anyone out. Some people did have legitimate problems because they were following erroneous instructions in the GEOS manuals.

Berkeley did have a disk of new printer drivers at the show. There were single and double density Epson drivers and one was an Epson REDuced driver. It prints a full GEOS page at 66% reduction, like on a copy machine.

All in all it was a wonderful experience and I cannot wait till next year to do it again. The Canadian people were very enthusiastic GEOS users and have to wait patiently many months after products are released in the US. Unless they order from US mail order companies.

# RUN'S GEOS Power Pak

By D. Roderick Eamon

Several firms produce software compatible with Commodore's official disk-based Operating System. Still, too few companies take the initiative: Spinnaker, Abacus, Timeworks, and Softsync (with BetterWorking Word Publisher, Becker Basic, Writer 64, and Personal Newsletter respectively) heavily revised old -- or created new -- products to run under GEOS (Becker Basic, for instance, accesses Commodore's built-in Basic). If other firms are working on new GEOS utilities, the combined efforts of the CIA and InterPol couldn't find them. The only other area where third party development continues apace is in the mind of the independent programmer.

Thank heaven for rugged individualism! Without these independents, GEOS users would never see Macintosh graphics on their monitors, use only BSW's one-pass drivers rather than bit-shift or two-pass drivers found on QuantumLink; input drivers would also be limited. However, choices exist. Freelance programmers, unsatisfied with the *status quo*, write razor's edge applications.

More, some of the most creative minds belong to GEOS artists! Without them only hundreds of fonts would be available, rather than thousands... thanks to geoFont, and designers like TT-Grafix and Susan Lamb. Each day, uncounted users create graphics and fonts, uploaded *en masse* to local bulletin boards and online services across the nation. Susan Lamb is one of these prolific graphics artists.

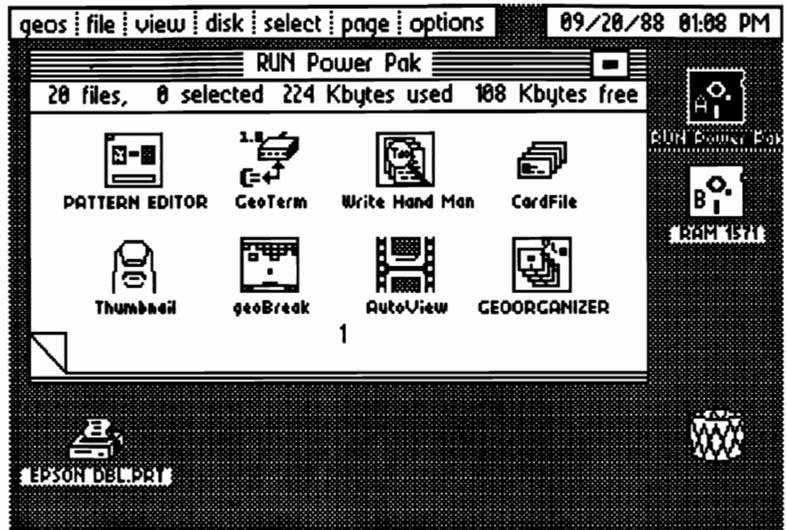
## Power Pak Features

On the downside, these programs become a bear to unearth without a modem or map to the right

```

geos | baud | duplex | transfer | buffer
-----
open | close | zero | view | load | save | send
-----
>Stadel 1-KEY Functions<
*-----> READING ROOMS <-----*
* >N>ew Messages >O>ld Messages*
* >F>orward Read >R>everse Read*
*-----> GETTING AROUND <-----*
* >G>oto A Room With NEW Messages*
* >S>kip Room >U>ngoto Room*
* >K>nown Rooms >Z>forget Room*
*-----> TELECOMMUNICATING <-----*
* >E>nter Message >C>hat w/Sysop*
*-----> GETTING HELP <-----*
* >H>elp >?> List Options*
*-----> IN & OUT <-----*
* >L>ogin >T>erminate (Off)*

```



user group. Past Run Pak disks proved a valuable resource for utilities and programs for Commodore 64/128 owners. Count *RunScript* and *DataFile* from Run's Productivity Pak among two of their esteemed releases. With GEOS Power Pak, users now find at their disposal a wealth of GEOS goodies.

Seven designers of master status produced GEOS Power Pak. With this in mind, let's take a closer look and see if the package works.

GEOS Power Pak isn't copy-protected: no Install procedure is required. I use both GEOS 64 and 128 as separately ID'd systems, so copy protection (and Installation protection) irritates work with my 50-plus GEOS workdisks.

Side One contains three applications -- geoTerm, CardFile; a game, geoBreak; seven accessories -- Write Hand Man, AutoView, Pattern Editor, Thumbnail, geoOrganizer, CONVERT V2.2, and PaintViewII; and 14 new Fonts.

On Side Two: another seven Fonts. Four geoPaint clip-art files take up the rest of Side Two.

## GeoTerm Blues

I awaited one program in particular: geoTerm, the first terminal program to run in GEOS, by veteran GEOS programmer, Bill (Master Blaster) Coleman. Telecommunicating under GEOS, the experts once claimed, is impossible. I long ago learned never to use that word.

GeoTerm's screen is elegant and simple. Working online within the GEOS point-and-click environment is a heady experience. With X-Modem protocol (but not Punter), 300/1200 bps, and full/half Duplex control, geoTerm is the simplest term software I've ever used, with its trick pull-down menus and handy two-key commands to control buffer and file transfer operations. Upload/download from disk, or from a second drive/REU is also open to the online user. The text area -- 53 columns by 21 lines -- displays more than a standard 25 by 40 composite screen on bbs's and services where width and page length you can adjust.

GeoTerm's Command Bar drops its menus to the right, between Command Menu bar and the "term screen," keeping the text area visible -- a well thought-out design.

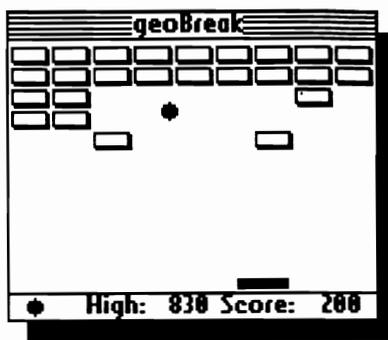
--continued next page

Initially, geoTerm (combined with my misunderstanding of modem commands) let me down. GeoTerm is manually operated: no auto-dial/auto-answer, carrier detect, or ASCII to PET ASCII conversion here. All files are sent and received as ASCII files. You can only access the first 15 files via the selector Dialog Box. And its 8K byte buffer is too small for my taste.

At first, these obstacles rendered my 1200bps, off-brand, semi-Hayes compatible modem (bought used, minus a manual) useless. After relating the problem to a BBS (bulletin board system) operator he instructed me to enter ASCII commands in Capital letters (i.e., "ATD" for Hayes compatibles). I got up and running in minutes.

At 300bps, geoTerm proved a flawless performer; at 1200 it occasionally dropped characters, but after I adjusted the offending online service's screen display, the data drop-out disappeared.

GeoTerm is a paradox. I use a variety of telecom programs, all more powerful and feature-laden than geoTerm. Yet, I find myself clicking to get online more often than not. GeoTerm is rock-solid and so easy, you should find it in Webster's, under "intuitive..." like programs from a time when 300bps would get you arrested for speeding. Simple and streamlined, geoTerm leaves scant room for improvement. Good though geoTerm is, I still await the overdue, high-octane geoTerminal from Berksoft.



### Gimme a Break!

GeoBreak is a windowed version of the legendary Breakout video game. GeoBreak is fun, but keep your Mouse clean or you'll miss the bouncing ball more than you'll hit it! The Level 1 is painfully easy but higher, you face slaughter until you adjust to the increased speed.

On one occasion I knocked the ball right out of geoBreak's park. I stored every Power Pak application in RAMdisk and deliberately crashed two of them (Pattern Editor and geoTerm) to obtain screen shots, probably corrupting RAMdisk memory. Later, I played geoBreak several more times from a backup disk and the ball behaved perfectly.

Written by Wayne Dempsey, geoBreak delivers mindless fun -- Breakout -- to the GEOS universe.

### Another File Program...

First came geoDex, a useful card-filing/phone-dialing (with a 1670 modem) Rolodex-style application. Then a full-featured and powerful, albeit a tad buggy, geoFile arrived. After several

rewrites, geoFile now feels solid and reliable. If geoUsers calling for a non-printing card catalog, CardFile by Joe Buckley answers.

Each CardFile "page" contains eight preset fields ready for filling with any information you like. Searches become a simple And/Or proposition: "And" searches all selected fields for exact multiple matches, "Or" looks into multiple fields for matches in one or more fields.

Data entered earlier can be modified, cards added and deleted as necessary, and text scraps generated from individual cards. Also, properly laid out geoWrite text scraps will import into CardFile. A one-card per text scrap limit prevents wholesale data transfer two and from geoFile.

During daily operations, excessive mouse movement is required to create new cards. For every card added to a file, click on the Option, then on Insert, and finally on the OK icon buttons.

In all, I found CardFile a well-executed, simple file program that I'll use to put all those business cards under my computer and next to my monitor, and those hotel numbers I always lose... this program, I'll use.

### Write Hand Man

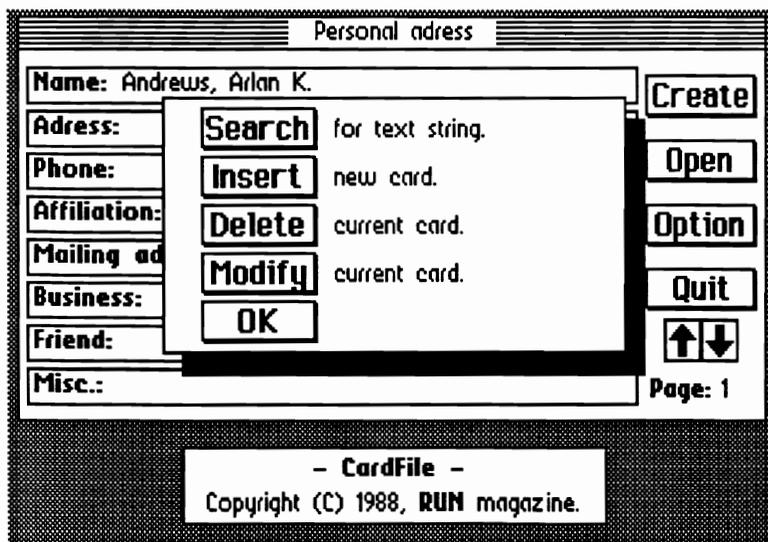
A shortfall of early geoSpell and all versions of geoWrite: a lack of total word count and text analysis. Berkeley Softworks responded, sort of... an undocumented feature in the geoSpell that comes with GEOS 64 V-2.0 performs a word count of a geoWrite document. Useful? Yes, but it's the only feature of its type built into BSw's software.

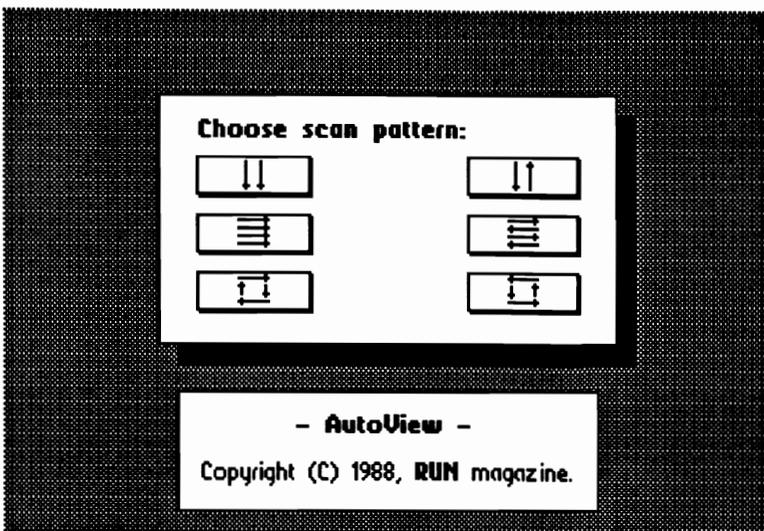
I prefer detailed reviews of manuscripts. Joe Buckley wrote Write Hand Man (WHM) to perform many of the document analysis features missing in geoWrite/Spell.

An analysis cycle takes four mouse clicks. The WHM screen displays word count, sentence count, average number of words per sentence, and the number of words listed in ascending order by length.

WHM also saves reports of text

--continued





files. Select the Report option once, and WHM cheerfully generates them as geoWrite files until it's de-selected! An all-around useful utility.

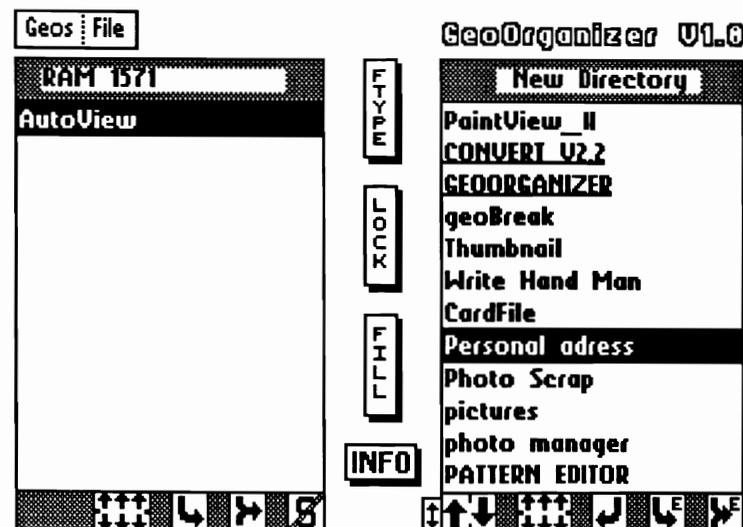
### Two Windows to geoPaint

AutoView, patterned after Koala and Doodle! slide show programs, gives geoUsers automatic views of entire geoPaint pages without lifting a finger. Six icon-buttons in the Scan Pattern Window controls AutoView: click up/down, left/right, and clockwise/counter-clockwise directions to display your graphic. An AutoView limitation: it must reside on the same disk as your geoPaint files.

On the other hand, PaintView II, an updated version of the earlier PaintView, accesses either active drive and allows disk swaps to see more geoPaint files.

New in PaintView II: the T, B, R, L, and C keys teleport you to the Top, Bottom, Right, Left, and Center of the screen. Pressing "S" saves geoPaint work areas to Doodle! files.

These two compact graphic accessories (under 20 blocks each) work beautifully to view geoPaint archives. Both were written by Joe Buckley.

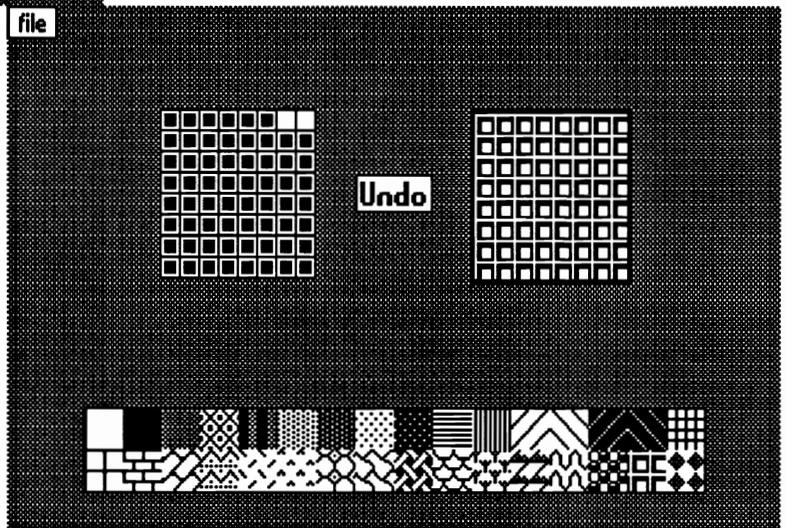


### Mutant Patterns

Ever want to alter the Pattern Box in geoPaint? With Wayne Dempsey's Pattern Editor, you can!

**WARNING:** keep this accessory as far from System (Boot) disks as possible! Pattern Editor will permanently alter geoPaint. Keep your System geoPaint Pattern set intact: **never** alter the upper left three patterns, or you'll exit geoPaint to a mangled deskTop screen (this is temporary: Trash Can the offending Pattern file (the geoPaint application) and Reset the screen (in Options) with a fresh geoPaint disk inserted.

For total shading control, you can't beat a modified Pattern Box. This accessory works!



### Finding the Needle...

In GEOS you can easily re-arrange disk files with the deskTop. Unfortunately, deskTop requestor boxes show only the first fifteen files, and paging through a disk gets frustrating, and hauling icons hither and yon is (pun intended) a drag. With its new multiFile feature, GEOS 2.0's deskTop makes disk management much easier, but it still takes some "ghost-and-drag" to do the job. Wouldn't it be nice to use a directory manipulation program similar to the 128 DOS Shell that runs under GEOS?

GeoOrganizer V1.0 by Bill Coleman does this and more. Not merely a disk manager, geoOrganizer rescues scratched files, adds empty spaces on the deskTop, write-protects, and changes file type (as in usr., prg., & seq.). GeoOrganizer is great by anyone's standard!

The downside... geoOrganizer doesn't support the 1581 drive... yet. In my opinion, that's its only weakness. If GEOS Power Pak applications receive an update (likely a patch in RUN magazine: program writers never seem sated by mere excellence), then geoOrganizer will support the 1581 in the near future.

For quickly arranging GEOS disks, no other accessory exists. If one did, it would have to reach far to beat geoOrganizer!

--continued

### Thumbs Up!

Hitched to an Apple LaserWriter, geoPubLaser creates miniature "thumbnail" images of a geoPublish page. We should all be so lucky... and we are! For us, Joe Buckley wrote Thumbnail.

Thumbnail creates copies of geoPaint pages and then compresses them to one-quarter size. You can also save Thumbnail "sketches" to a special geoPaint file.

A useful feature of Thumbnail is Threshold, which lets users vary the density of the shrunken image. Experiment to find the best Threshold setting: two clip-art images vanished when going from #6 to the #11 setting (they were "gray-scale" images).

In operation Thumbnail is simple: I used it without reading the documentation! Thumbnail makes a great archival tool for those with disk upon disk of graphics. An all-around good performer.

### Yet Another Convert?

Every geoUser with a modem probably owns a Seq-to-GEOS and back accessory, so I'll just say Convert 2.2, by Bill Coleman, will convert more file types than yours. You can also enter the filename directly, or point and click. Other than being the most powerful GEOS converter I've ever seen, I won't say more.

### Fonts and Graphics Galore!

The package also includes solid fonts by Tom Treverrow (TT Grafix), Susan Lamb (YumaLamb), and Shaun Jones: I'll use these liberally... they're that good.

Last but not least, four full geoPaint pages of useful geoPaint clip-art and borders by Susan Lamb. Her graphics alone cover the value returned by this package!

### Conclusion

When I ordered GEOS Power Pak, I held high hopes for geoTerm and considered everything else filler. I now employ geoTerm on non-Punter boards and Delphi. The other applications, fonts, and graphics inhabit many of my workdisks. I use one or more GEOS Power Pak utilities on a daily basis. In my opinion, this is a sign of money well spent. RUN's GEOS Power Pak disproves the rule: you get what you pay for... in this case, you get more.

GEOS Power Pak, \$24.97.

RUN, 80 Elm St., Peterborough, NH 03458

## DeskTop Keyboard Shortcuts For Version 2.0

<b>C= A</b>	Open Drive 'A'
<b>C= B</b>	Open Drive 'B'
<b>C= C</b>	Close disk
<b>C= D</b>	Delete selected file(s)
<b>C= E</b>	Erase disk in current drive (same as a short NEW)
<b>C= F</b>	Format disk in current drive
<b>C= G</b>	<i>not implemented</i>
<b>C= H</b>	Duplicate selected file(s)
<b>C= I</b>	Select Input driver
<b>C= J</b>	<i>not implemented</i>
<b>C= K</b>	Copy disk from current drive (A to B or B to A)
<b>C= L</b>	<i>not implemented</i>
<b>C= M</b>	Rename selected file(s)
<b>C= N</b>	Rename disk in current drive
<b>C= O</b>	Open disk in current drive
<b>C= P</b>	Print selected file
<b>C= Q</b>	Display info on selected file(s)
<b>C= R</b>	Reset the DeskTop
<b>C= S</b>	Append page after the page opened on the DeskTop
<b>C= T</b>	Delete page opened on DeskTop (will delete files)
<b>C= U</b>	Undo deleted file (file listed under trashcan)
<b>C= V</b>	Validate disk in current drive
<b>C= W</b>	Select all files on all pages
<b>C= X</b>	Select all files on current page
<b>C= Y</b>	Select all border files
<b>C= Z</b>	Open selected file
<b>C=</b>	Hold down to select/deselect multiple files
<b>C= 1 to C= 8</b>	Select file on current page (1-4/5-8)
<b>C=Shift A</b>	Swap Drive 'C' with Drive 'A'
<b>C=Shift B</b>	Swap Drive 'C' with Drive 'B'
<b>C=Shift 1 to C=Shift 8</b>	Select a border file
<b>1 thru 9 and 0</b>	Move to page 1 thru 10
<b>Shift 1 to Shift 8</b>	Move to page 11 thru 18
<b>RUN/STOP</b>	Aborts multi-file operations
<b>UpArrow</b>	Go to previous page
<b>DownArrow</b>	Go to next page

Compiled By Master Blaster

# Expose:

## Don't Judge the Software by the Package

By Paul A. Hughes

Caveat Emptor (Let the Buyer Beware!)

Before you plunk your hard-earned dollars down on a piece of software read the package carefully. If you go to a computer store that has a package open and the dealer will let you load it up and try it out - do not hesitate.

While at the World of Commodore in Toronto I discovered two instances of misrepresentation to the public. I do not think this was intentional. After doing a review of Spinnaker's Better Working Word Publisher in GeoWorld Volume 2 Issue 4 Number 13 and when I saw the package for TimeWorks' new GEOS Writer 64 I knew something look amiss. Was it just coincidence that TimeWorks had come out with a GEOS-based word processor that had many features that were remarkably similar to Spinnaker's Better Working Word Publisher? Both seem to have a quick text entry mode, WYSIWYG Preview Mode, 100,000 Word Built-In Spell Checker, Mail Merge, full formatting control, headers and footers, two way printing options, help screens and unlimited document chaining, etc. They had changed the description slightly from "rapid text entry" to "high speed text entry". Curiosity had gotten to me and I went over to the TimeWorks booth and asked if Word Publisher was really GEOS Writer 64 in a different package. The representative reluctantly said "yes" they had bought the program from Spinnaker. He also thought that it would not sell well since GeoWrite Workshop is now included in GEOS 2.0 64.

It says on the back of GEOS Writer 64 that it works with GEOS 1.3 or later. I have used both products and some features do not work as explained in the manual or may cause a system error in GEOS 2.0, because the author had overwritten kernal routines for pasting graphics and faster cursor speed, so it may be incompatible with certain versions of GEOS 1.3 and 2.0. GEOS Writer 64 has a poorer manual; missing the author's helpful notes. Word Publisher documents are not compatible with

geoWrite.

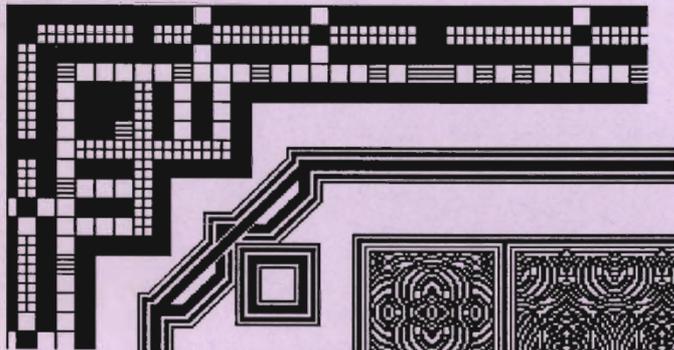
Just when I thought that was incredible I happened upon a \$15 (Canadian funds) software package called Personal Publisher 2.0 from Expert Software, which included disks for IBM, Commodore and Apple computers. The Commodore version ran under GEOS. I got the package home and discovered that it looked exactly like Personal Newsletter from Softsync, Inc. It was the same product except in the Softsync product one could convert graphics into the program with utilities on the disk and had a menu option to create, resize, move graphic and text boxes on the single page document.

In the Expert Software program that menu option has been removed. On the disk comes several ready-made templates in which you are limited to paste graphics and text in the boxes already set up. The Personal Newsletter from Softsync came with over 200 pieces of Clip Art Free a \$19.95 value. The images are very poorly digitized and distorted Apple clip art. You cannot flow text from a text file, but you must type in from the keyboard. After entering text you cannot change the font or style of it. Also if you place too many large graphics or fonts on the single page file the byte counter on the page will say it is full. Personal Newsletter says it comes with several GEOS fonts and a graphic editor. It shows in the manual how to use GeoPaint which is not on the disk but can be found with the fonts on your main GEOS disk. GeoWrite Workshop and GeoPublish are looking better everyday. It seems like BSW did it right the first time. These other programs just cannot compete.

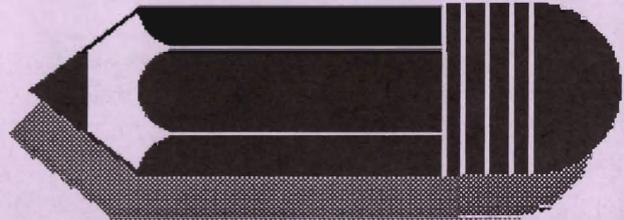
These other programs are poorly done. It is wrong that they are misleading the public by selling the same programs that people have already bought and gotten stuck with and marketing them again under different labels and packaging. These companys are taking unfair advantage of the uninformed consumer.

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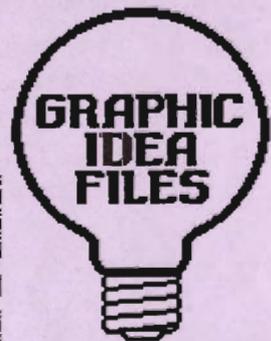
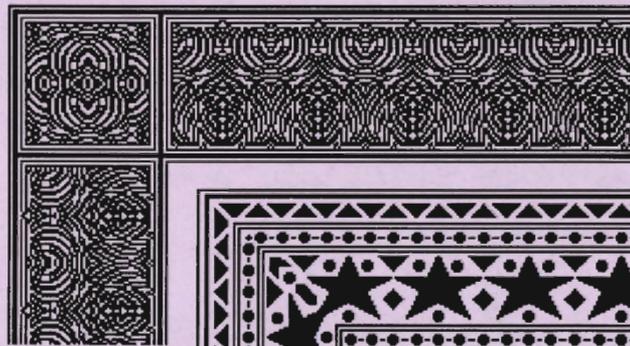


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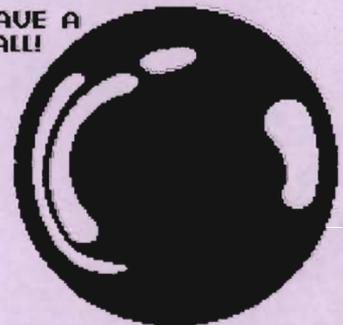


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