geoWorld

The definitive magazine about GEOS

Issue #24

A Focus on ComputerEyes

Video Digitizing...

Roger Eller 1990

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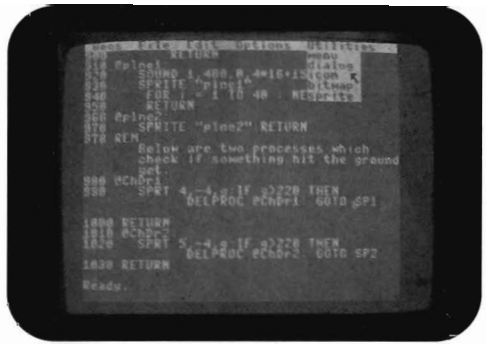

complete with ***sample applications*** that show you what you can do with this versatile programming language!

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- GEOS Mouse, Menu, Dialog Box & Icon support
- Graphic commands
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- Sound commands
- Printer commands
- Disk commands
- Sample Applications

GeoBasic

Advanced Programming Features Include:

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Longer Variable Names
Definable Print Windows
WHILE . . . LOOP
REPEAT . . . UNTIL
Process Routines
CALL command for user written ML routines

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Developed by the GEOS pros at Berkeley Softworks, GeoBasic is not sold in stores. It's available only through RUN magazine, so don't delay. Take advantage of this super GEOS offer now! Complete the coupon below, or for immediate service, CALL TOLL FREE:

1-800-343-0728

and CHARGE IT to your credit card. Not available in retail stores.

❑**YES!** Send me GeoBasic (disk plus complete manual) for only $39.95 postpaid.

❑ Payment enclosed
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Card # Exp.

Signature

Name

Address

City State Zip

Canadian and foreign orders add $4.50 per program. US funds drawn on US bank. All programs require GEOS. GeoBasic runs in 64 mode (40 column) on C64/C128. Allow 4-6 weeks for delivery. W990

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GEOWORLD

The definitive magazine about GEOS

Issue Number 24

GEOWORLD is not a monthly publication. Please check the mailing label for when your last issue will be sent.

GEOWORLD
38 Santa Ynez Street
Santa Barbara, CA
93103

Roger Ledbetter
Publisher

Peter / Paul Hughes
Managing Editor

GEOWORLD is published and printed entirely from the homes of the Editor and Publisher using Commodore 128, GEOS, geoPublish, geoPubLaser, geoTerm, modem and a postscript laser printer.

Articles may be submitted in geoWrite format with artwork in geoPaint pages or photo scraps on GEOS disks. Authors will receive a GEOWORLD PD disk and $15. per page for material published.

Subscription
(Mail order only)
1 issue - $2.50
12 issues U.S. - $20.00
Canada - $30.00 Overseas - $50.00
U.S. funds only

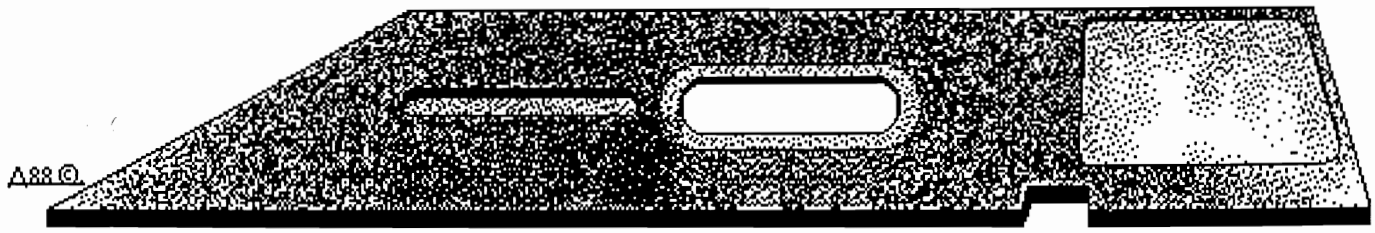
United Kingdom Distributor:
Financial Systems Software LTD.

Inside this issue

About the cover...

This cover is a combination of a full page ComputerEyes picture in geoPaint format that I found in the libraries on Q-Link, and a scan of a Zenith cam-corder, provided by Peter Hughes. I took these images and produced color separations for 4-color Process printing with geoPaint and geoPublish. My technique is described in detail in geoWorld issue #23. Also, on the back cover of #23, I have provided a reference chart of 216 colors that can be achieved through this procedure. R.E.

Announcing GEOWORLD #24 Disk



GEOWORLD #24 Disk is filled with a variety of programs and upgrades. Side one has two GEOS ComputerEyes video digitizing programs. One is *Scantastic* by Ben J. Woods. He asks $10.00 shareware for an improved version. The other program is Berkeley Softworks' *ComputerEyes Driver* by David Durran that creates half page geoPaint images.

PicsShow 3.4 by Payton W. Snider II converts hi-res and multi-color picture formats and does a slideshow.

MacAttack II+ 1.3 by Joseph P. Buckley converts MacPaint pictures to and from geoPaint pictures. This version allows you to select multiple files up to 250 for a 'batch' conversion session. Also this program has MacBinary header suppression in both import and export to keep compatibility with some MacPaints transfers.

MultiLabel 2.5 by David B. Ferguson prints multiple address labels in draft, NLQ or hi-res modes. Almost 100 3-line labels can be stored in a file. A graphic can be placed on a label. Data from the address list can be placed on a graphic label in a font.

ScreenDumper 2 by Jeffrey Huntington lets you print a screen to a printer.

PrintIt 1.2 by Mike Craig prints the current screen from GEOS 64 and 128 80 column modes. This version is compatible to with the paint drivers so screens can be outputted to geoPaint files.

ScreenPhoto by David A. Hall captures the current screen in a photo scrap. This program is good for including screen shots in articles about programs.

Ruler 1.5 by Michael T. Graham lets you measure on-screen images to see how big they will be printed at different dot-per-inch settings. This version has keyboard shortcuts.

There are two versions of *IconGet* by Robert J.G. Norton are included on this disk. One grabs an icon from a disk file and makes a photo scrap out of it. The other version doubles the size of the icon. The magnified icon is larger and it is easier to see the detail.

The next three programs are specifically for GEOS 128 80 column users. *GraphicView 1.1* by Kenneth L. Bell, Jr. lets you view geoPaint, Doodle and bitmap graphic screens in color on the 80 column screen. 64K of VDC ram are required.

Color128 by Jean F. Major is an auto execute program that lets you change the foreground and background color on the GEOS 128 80 column screen. There is a text file included that gives information about a GEOS Utilities Disk 1 that he is putting together.

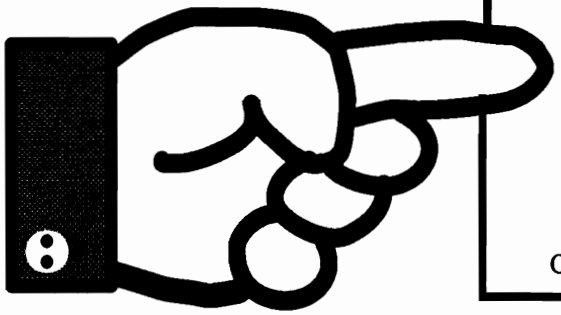
Move 80 Col by Robert Phoenix moves the 80 column screen up, down, left and right so that you can center it.

On side two of the disk are two programs by Sean Huxter. One is a colorful desk accessory game called *geoMimic* that mimics a computer gemerated sequence. You have to memorize the sequence and repeat it.

The second program is *geoComix* which is a choose-your-own-path graphic adventure comic.

Font Dump III is a GEOS font printing application that creates font sample sheets. This program lets you select more than one font/point size at a time up to 250 to have a 'batch' printing session.

There are some new Star fonts by Thomas Dively (Starman35). These are unique fonts that look like bricks, twisted and flowery. Also something for Teenage Mutant Ninja Turtle fans.



ORDER #24 DISK TODAY:

Disks #1 - 5 and #23 are still available. Please indicate which numbers you want.

Send $5.00 check or money order with your request to:

GEOWORLD #24 DISK
38 Santa Ynez Street
Santa Barbara, CA 93103

Canada & Mexico add .50 per disk. Foreign orders, add $1.50 per disk

IBM Beta Testers Wanted By Berkeley Softworks

Berkeley Softworks is preparing to release a product which will bring new life to IBM PC and PC compatible computers. Beta testing for this system will begin in May.

We are looking for testers who are excited and confident about their ability to contribute to a new software product. Creativity and quick responsiveness is a must. We also require testers to perform thorough proofreading of the manuals to verify their accuracy and comprehensiveness.

Ongoing support and communication ties between the Beta Tester and Beta Tester Coordinators are open at all times. We hope to make this program as fun as possible and reward individuals based on their level of participation.

If you own an IBM PC or PC compatible computer and have a sharp eye for details, provide the following information:

1) Name and address.
2) Day and evening phone numbers.
3) Model and brand of computer.
4) Type of microprocessor (i.e. 8086, 8088, 80286, 80386).
5) Hardware setup:
    a. printer
    b. hard drive (size)
    c. RAM
    d. disk drive (i.e. 5.25, 3.5, both, high or low density)
    e. monitor (i.e. EGA, Hercules, VGA)
    f. mouse (please give the brand name of the mouse you are using)
    g. modem
6) Any additional hardware you are using with your system.
7) The software product(s) that you are currently using with your system.

Please return the information to our office;

Berkeley Softworks
2150 Shattuck Ave.
Berkeley, Ca. 94704
Attn. Beta Testing/Customer Service

Unfortuately, we cannot accept individuals who are employed by microcomputer software firms. We will send you a letter of acknowledgement and a Non-Disclosure Agreement to sign. Each beta tester is selected according to our testing needs and your hardware configuration.

Sincerely,

Keva Beckley
Beta Tester Coordinator
Berkeley Softworks

GEOS News From Q-Link

The latest news from the GEOS ARENA
By Peter T. Hughes (GeoLib PH)

There is some great news to announce from QLINK. Joe Buckley (Red Storm) has made some new programs. Roger Lawhorn (Roger LL) has come out with SuperBox 2.0 which is a file box replacement that lets you access many more files. Two people have services for upgrading REUs up to 1 and 2 megs. Roger Eller (RogerE5) has found out how to import geoWrite and geoPublish PostScript pages into Macintosh Pagemaker.

MacAttack II+

MacAttack II+ will do picture conversions between MacPaint and geoPaint formats. This program works in 40 or 80 column modes. This version allows multiple file selection and supports MacBinary header suppression in both import and export to keep compatibility with some MacPaint file transfers.

FontDump III

Font Dump III is a 40 or 80 column GEOS font printing application that creates font sample sheets. This program lets you select more than one font/point size at a time for a batch printing session.

Mirror, Mirror

'Mirror, Mirror' was written in response to a posting on the general message board. This program will take a whole geoPaint file and create a copy 'mirrored' across the page (left to right). The file's color data is mirrored as well.

This program allows for multiple file selection and three drives are supported on REU equipped systems.

There are two uses for this program. One is for printing iron-on T-Shirt picture transfers. The other is flipping horizontally a section of a geoPaint that is larger than the edit window.

In Joe's latest programs he uses a powerful file box. He takes Bill Coleman's file box and goes beyond its capabilities. Three drives are supported. Multiple files can be selected up to 250 and the files are accessed in the order selected. Icons let you move easily through the file list. Double click mouse button on file name to load it. Also many keyboard short cuts. Cursor keys can be used for moving up and down files one at a time or use shifted cursor keys for moving seven files at a time. You can press keys for selecting and de-selecting all files. Go to top and bottom of file list. This file box is great.

If you want to contact Joe Buckley email him as Red Storm on QLINK or write to: Joe Buckley, Storm Systems, 464 Beale Street, W. Quincy, MA 02169.

SuperBox 2.0

SuperBox is a patch to the GEOS kernel that finally beats the old 15 file limit. Imagine accessing 255 files!

Your 1581 won't be so useless with GEOS anymore. You can keep more than 15 geoPaint files on it and still access them all.

SuperBox has some of the following features:

1) Scrolling. SuperBox scrolls up and down five files at a time!

2) Wrapping. SuperBox will wrap around! It will scroll from the top file name to the bottom and vice versa!

3) Continuous clicking. Ever get tired of clicking again and again and again.... just hold that button down with Superbox! You can scroll through 255 files in under four seconds!

4) Display. SuperBox now displays the title "SuperBox" so that you will know that it is installed. It also displays the number of the file at the top of the display along with the number of files that were found on the disk!

SuperBox now works with GEORAM (or any REU for that matter!)

You will need a copy of GEOS 64 2.0 and a ram expansion to run Superbox. Look for SuperBox 128.

Send $5.00 to:
SuperBox Disk
3632 Gray Fox Dr.
New Albany, IN 47150

The disk also includes several handy PhotoAlbum utilities for good measure. Please include your Q-Handle when writing.

Beyond 512K REU

Some users are now expanding REUs above 512K using the circuit design by Recursion.

By using Jim Collette's Configure 2.1 a RAM 1581 can be used.

Melvin Montgomery (CMDR FIXER) upgrades REUs and gives a 30 day warranty. His prices are listed below:

256k REU to 1024K --- $170
512K REU to 1024K --- $120
512K REU to 2048K --- $300

Plus $4 for shipping.

Melvin Montgomery
1504 Amherst
Plano, Texas 75075

He is considering offering a do-it -yourself kit which would include all the parts and his circuit board along

with instructions. He would probably offer the kit to expand a 512K REU to 1 meg for $75 and $100 for a 256K REU to 1 meg.

Raymond Day (RaymondD2) is also upgrading REUs up to 1 and 2 megs. It will cost $80 for 1 meg, $120 for 1 1/2 meg and $160 for 2 megs. For a 1764 to 512K he will charge $30.

Here is his address:

Raymond Day
9601 Morton Taylor Rd.
Belleville, MI 48111-1328

Just consider the power you will have with a RAM 1581 with almost 800k of disk space compared to a RAM 1571 with a little over 300K free.. You can have geoPublish, geoWrite, geoPaint, Photo Manager, Photo Albums, fonts and a few documents and still have plenty of space for more programs.

GEOS EPS to Mac Pagemaker

Roger Eller (RogerE5) has found out how to convert geoWrite and geoPublish pages to PageMaker compatible files.

A text manager file containing a small text scrap of Postscript code allows you to convert a Geos Postscript file into an Encapsulated Postscript File that is recognized by Aldus' Pagemaker on a Mac.

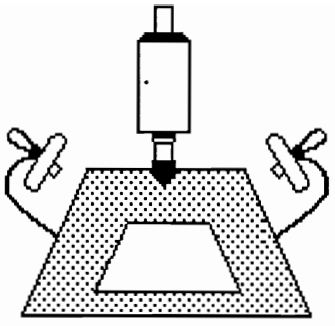
If you print Postscript to disk using geoLaser or geoPublaser that has been patched with PS-patch, this short piece of Postscript code can be added to the file in geoWrite (the Postscript file must be converted to geoWrite from TRUE ASCII using Wrong-is-Write). The file must be restored to TRUE ASCII after adding this coding to the beginning of the file.

What this does is causes a Macintosh that is running Aldus' Pagemaker to recognize the file as an Encapsulated PostScript File (an object-oriented graphic), rather than a text file. This file can be placed, resized, condensed, stretched, and printed directly from within Pagemaker instead of being downloaded to the laserprinter like a font.

The advantage to printing this way is the ability to resize, stretch, condense, and rotate the image, and several pages can be placed on a page.

Roger Eller will be writing an article about his experiments with EPS files for a future issue of geoWorld magazine.

There are more programs and new ideas for GEOS appearing all the time on QuantumLink.



Video Digitizing With Computereyes

By Peter T. Hughes

Do you want to use clipart, photos and graphics in your desktop publishing applications, but you have no artistic talent to draw a stick figure? Or perhaps you are an accomplished computer graphics artist, but do not have the time to draw anything from freehand sketch to final artwork. Or you want to use a design or logo in your documents and print the page in one pass and do not want to do manual cut and paste. It would be too tedious to render the complex image from scratch. Or perhaps you want to use a unique font, but to compose it by hand would be prohibitive and time consuming. If you are any one of the above persons, then video digitizing is for you. By using a video camera you can capture real world images in a matter of seconds, that would take even a talented artist many hours to accomplish. But video digitizing can benefit the computer graphic artist. He can digitize a rough sketch of an image on paper to get an approximation of the overall image and proportions. He can then take that image into a paint program and touch it up using zoom mode for pixel detail and modify the image.

What is Video Digitizing?

Video digitizing is where a standard composite video signal is fed from a camera, VCR or other video source into the digitizer, and the software then translates the incoming signals into a graphic image. Knobs on the digitizer adjust the black/white balance or brightness of the image and the synchronization of the video signal using the included software. The software is menu-driven. After the initial adjustments, pressing a few keys captures the image.

There are two popular video digitizing systems. One is ComputerEyes from Digitial Vision at $129.95 and Video Byte from The Soft Group at $79.95. Video Byte comes with software that only does medium resolution four gray colors mode. This is not high enough resolution for detailed images that GEOS requires. ComputerEyes has more software support and there is also software to support the medium resolution four gray colors mode. There is software for Doodle, Koala, Flexidraw, Newsroom, Print Shop and GEOS. (See end of this article for a list of ComputerEyes software available). I will concentrate on using ComputerEyes with two GEOS programs - Scantastic and BSW ComputerEyes Driver.

ComputerEyes Hardware

ComputerEyes is a hardware/software combination video acquisition system, which allows the C64 to digitize real-world objects and images into the computer and produce files which can be manipulated by other graphic programs. The ComputerEyes hardware is a black box which plugs into the user (modem) port of the C64.

ComputerEyes produces black and white images which are great for line art and grey-scale images for color or 3D shaded objects. By taking the incoming analog video signal and by varying the minimum detection level allows the capture of an on or off digital signal, resulting in pixels on the high resolution screen. The black and white, high contrast images are captured in 6 seconds using a slow scan process. The 4 scale option takes 25 seconds and the 8 grey scale option takes 50 seconds. Because of the slow scan sampling of the video signal a still image is recomended.

Getting good quality images.

The ComputerEyes system is easy to set up. When the computer is off, plug the ComputerEyes box into the user I/O port where the modem usually goes. Then set up your camera on a tripod for stability. Plug the RCA phono video cable into the input slot on the right side of the box.

A good black and white surveillance camera is recommended for sharp images. I recommend the Panasonic WV-1410 model. The camera is only a few pounds and has a macro lens to adjust for closeups up to 3-4 inches away from the subject. Great for small images that you want to fill the screen. A VCR is acceptable, but a good still freeze-frame is required for longer scans. A color camera is also suitable, but a checkered pattern may appear in the black and white high contrast mode, because of color interference from the video signal.

If you are not using a color VCR camera, which has a viewfinder, but using the black and white surveillance camera. you can use a Y adpater to run the video signal into the front of a 1702 monitor and then use the front-to-back switch on the back of the monitor to focus the live image and switch back and forth to you computer display. If you do not have a 1702, then use a small B & W TV set with a Radio Shack RCA to RF modulator.

The brightness level is very important in digitizing an image. For the black and white high

contrast scan, adjust the brightness so that you see the image on the screen with the correct white balance as you want the final image to appear.

When capturing 4 or 8 gray scale images, adjust the brightness knob until only the extreme lightest areas appear white on the screen and the rest is black. Too much light will wash out the image. When an image is all black accept for small parts of white, the image will have a more defined gray scale display. Experiment to get the correct white balance.

ComputerEyes Software

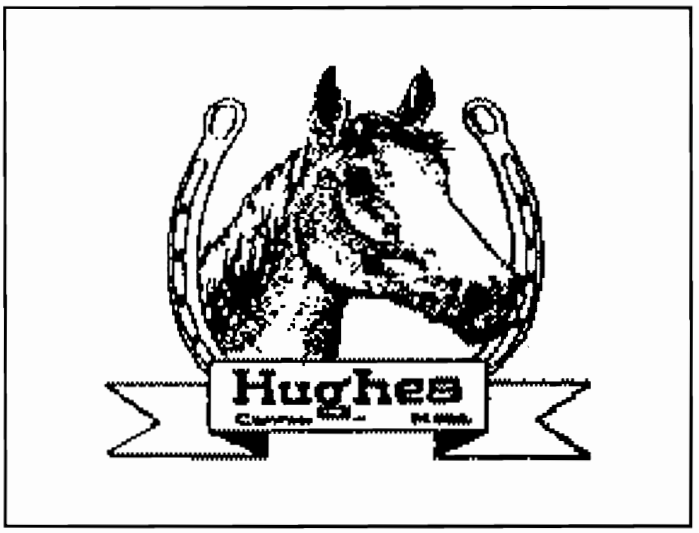
The original software that comes with ComputerEyes will allow the capture of images in standard HiRes bitmap of 320 x 200 pixels in black and white high contrast line art mode and 4 or 8 gray shades modes. By using GraphicStorm or Import Runner (RUN Power Pak II) by Joe Buckley or PicShow by Payton Snider you can convert these images to geoPaint format. The image will be inverted or negative so you have to correct this in geoPaint.

Scantastic

Scantastic by Ben Wood creates 320 x 200 pixel images that can be saved as geoPaint files or as large Photo Scraps. The image can be cropped to black out areas bigger than a normal Photo Scrap. The threshold setting in this program is very good and unique. It lets you adjust the brightness of an image without touching the brightness knob or adjusting the lighting. Change the threshold and a new scan will be made affecting the brightness. There are two problems with this program. One is that there is no desk accessory support. After creating a Photo Scrap you can not load the Photo Manager and create an album to put multiple scans. You have to leave the program to go to the deskTop. Also this program does not work well with more than one drive. All saves are writen to device 8 or drive A. On GeoWorld #24 disk there is a working demo version of Scantastic. Scantastic is shareware and $10 plus $4 shipping will get you a new version and a Scantasimodifier program which lets you alter the 8 gray patterns to any others that you can create.

BSW ComputerEyes

Berkeley Softworks made a ComputerEyes Driver for GEOS. This program creates 640 x 400 pixel images on the top half of a geoPaint file. This is great for creating large pictures. The 1-scan black and white mode does not create good or detailed images. The images created have double-thick pixels that look jaggy. It looks like a 320 x 200 pixel 40 column screen scan was created and just enlarged to 640 x 400 pixels. The 8-scan does eight levels of gray shade and creates very detailed and realistic images.



Hughes Horse & Rider Logo B & W

Peter Hughes 8 gray scale

Nan 8 gray scale

People who use ComputerEyes

There are many people using ComputerEyes. There are three people using it in GEOS that are getting very good images. Dale Beach creates his 'Toon disks with the help of ComputerEyes. See an article about him in this issue of GeoWorld.

Susan Lamb uses ComputerEyes in creating many of her latest clip art images. She also uses it to create GEOS fonts. ComputerEyes makes her more productive in making high quality images..

"Cash Short" on QLINK has done a few full page shaded scans with the BSW ComputerEyes driver. He creates two half page (640 x 400 pixel) geoPaint pages and pastes them seamlessly to create a full page. The girl on the cover of this GeoWorld issue was done by him. On the GeoWorld #24 disk there is a full page geoPaint of Raquel that is very good.

ComputerEyes is an easy-to-use hardware/ software system that lets you digitize high quality images from standard video sources. You can display them on your computer, print them out, touch them up in your paint program for importing into desktop publishing documents, or transmit them over the phone line via a modem to another computer. QuantumLink has a large library of digitized images in the C64 Graphic Support Group Digital Darkroom and the GEOS ARENA GeoPaint libraries.

ComputerEyes Software

Doodle

High Contrast, 4 gray shades, 8 gray shades, 5 gray colors. High Resolution.

Koala

High Contrast and 5 gray colors. Medium Resolution.

Print Shop

Can save full screen and small Print Shop graphic compatible files.

Newsroom

Saves Newsroom Photos.

Flexidraw

Saves in Flexidraw format.

Digital Vision, Inc.,
66 Eastern Ave. Dedham, MA 02036 (617)329-5400

Color-Eyes V2

Color-Eyes V2 is a basic program with some machine language routines that enables you to make 4-color (multicolor mode) scans with your ComputerEyes digitizer. Color-Eyes saves Hires screens as ComputerEyes, Doodle, RunPaint or Art Studio. It also saves multicolor screens as Koala, RunPaint, Artist 64, or Advanced Art Studio.

Hires scans can be captured in black and white color, 4 gray shade and 8 gray shade. Multicolor scans can be captured in 2 color, 4 color and 4 solid colors plus 3 checkered colors for a total of 7 colors. The 4 gray colors in multicolor mode can be cycled to any of the 16 colors. Hires and multicolor images can be scanned from the same program and both can be stored in memory at the same time. Available on QLINK in the CIN, Graphic Support Group, Graphic Toolbox Library.

Thomas Dively (Starman35),
8583 Greenbelt Rd. Apt. T-3, Greenbelt, MD 20770

Scantastic

A GEOS ComputerEyes program that saves images as bitmap or GEOS Photo scraps. Available on QLINK in GEOS Arena or geoWorld #24 disk.

Ben Wood, P.O. Box 772, St. Charles, IL 60174

GEOS ComputerEyes

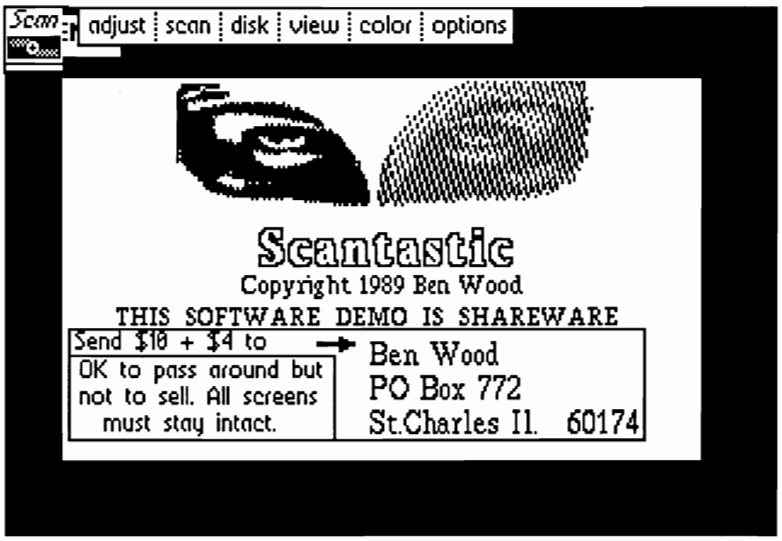
A GEOS ComputerEyes program that creates 640 x 400 pixel or half page geoPaint files. Available on QLINK in GEOS Arena or geoWorld #24 disk.

David Durran, Berkeley Softworks,
2150 Shattuck Ave., Berkeley, Ca 94704

GEOS GEMS -

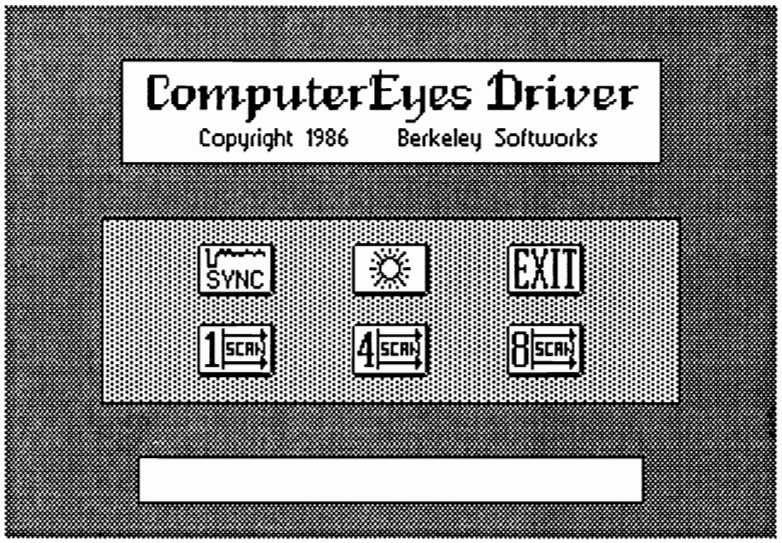
By Peter T. Hughes

Video Digitizing



Scantastic

Scantastic is a ComputerEyes software program by Ben Wood.This is a shareware demo version that works. There are menus for selecting sync, brightness, threshold (contrast or exposure), normal black and white line art, 4 level and 8 level gray shade. A scanned image is 320 x 200 pixels and can be saved or loaded as 8K bitmap or as a full screen GEOS Photo Scrap. An image is captured inverted or white on black but it can be inverted to black on white before saving. The image can be cropped to black out areas bigger than a normal Photo Scrap. Send $10 + $4 to: Ben Wood P.O. Box 772, St. Charles, IL 60174.



ComputerEyes

ComputerEyes is a ComputerEyes driver by David Durran from Berkeley Softworks. This program creates a 640 x 400 pixels image on the top half of a geoPaint page as it scans in two parts. It has icons for selecting sync, brightness, 1-scan, 4-scan, and 8-scan. 1-scan images are black and white line art. This mode is not too useful because the image created has double thick pixels that look jaggy. It looks like a 320 x 200 image was doubled in size to fit the 640 x 400 space. The 4-scan does four levels of gray shade. The 8-scan takes the longest time to scan and does eight levels of gray shade. Brightness control is important.

NOTE: In GeoWorld #23 I mentioned that a special no line feed printer driver was needed to use GeoLabel by Roger Lawhorn. Epson no line feed drivers are included on the GeoLabel disk in many dpi and densities.

Contact me on Q-Link as **GeoLib PH** - the GEOS ARENA Software Librarian. Or write to me at my address: Peter T. Hughes, 151 Randolph Street, Canton, MA 02021.

Creating 'Toon Disks with ComputerEyes

By Dale Beach

First, I think up the cartoons in batches, and write them all down. Often, I will provide a death-dealing driving experience for others on the highway, since I often use a microcassette recorder while driving to save time. Then I draw the cartoons as pencil drawings. Next, I use an *extremely* portable light table to ink the drawings--it fits in my breifcase. I use another sheet of paper to ink over the pencils. This version is the one that I use for digitizing.

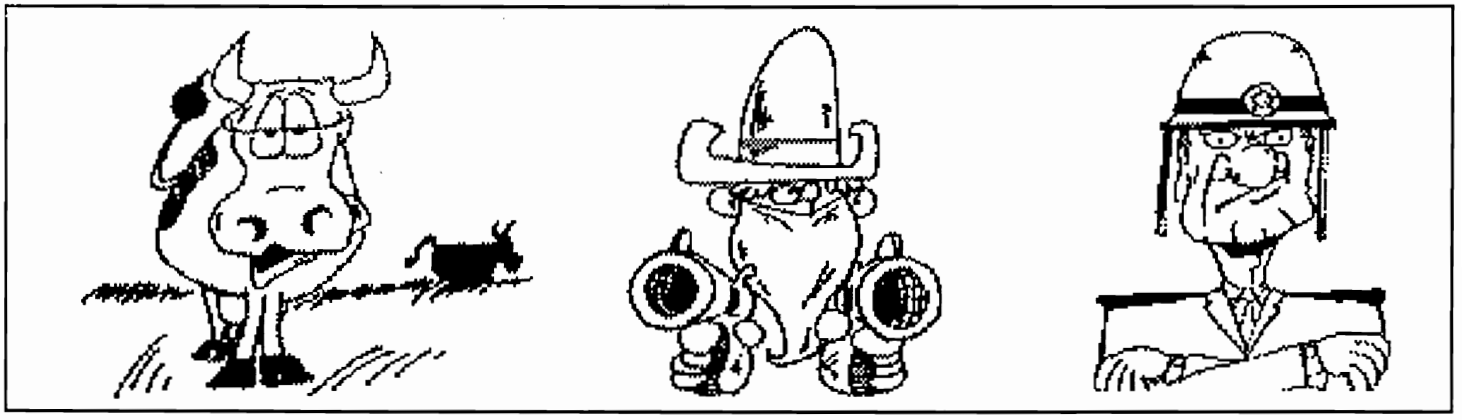
As with all the other stages, I usually do the digitizing in large batches. I use a Panasonic CCTV Camera, a black and white security-type camera to digitize with. The reason I use a black and white camera is that it was recommended to me by someone especially knowledgeable about digitizing...his name was Hughes, or something like that. :)

Although I use the ComputerEyes hardware, I don't use the software that came with it. Instead I use Ben Wood's Scantastic program. I use the version he sells, since it has more features than the downloadable version. However, since the program only supports photo scraps when creating directly-compatible GEOS files--and since I do them in batches--and since Scantastic does not allow you to access the Photo Manager from within the program--and since I CAN make multiple ComputerEyes format files from within the program--I save my batches of digitized cartoons on a 1581disk in ComputerEyes format. Scantastic will not work with a RAM expansion unit, or I would, for the benefit of speed, use my 512K RAM expansion while saving. However, I do move everything over to the RAM disk to convert to GEOS format. For that conversion I use Joe Buckley's Import Runner. I make individual geoPaint files instead of photo scraps, since I need to clean up and modify the art a bit.

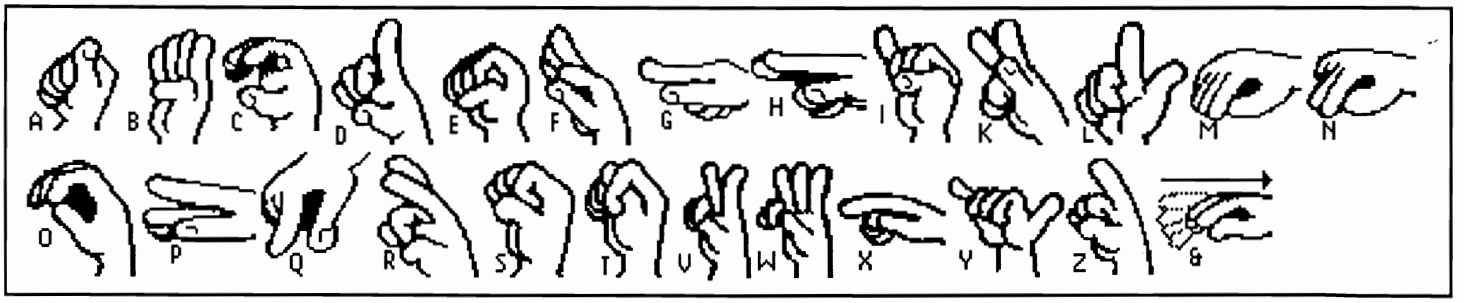
Once the individual cartoons are ready, I group them together in full-page geoPaint files, including between 45-60 drawings per disk.

I include a newsletter, which I create using geoWrite, geoPublish, and usually a sample or two of art from that disk. Then, using the paint driver, I convert that into a geoPaint file as well.

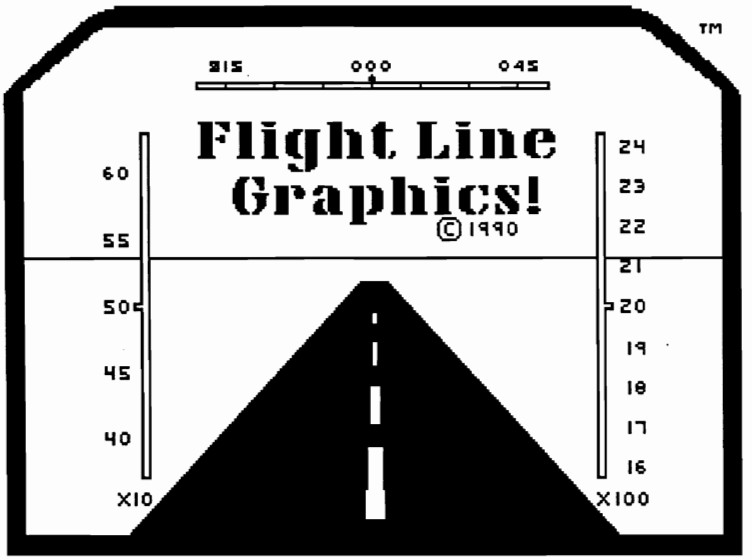
Since some of my customers have asked for color, I go through the files and add simple color to the drawings. Then I customize the icons on the files.

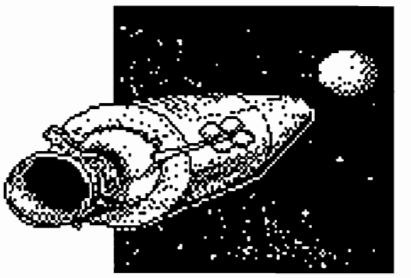


Cartoon characters captured with ComputerEyes



The "Dactylology" alphabet for the deaf created with Computereyes and Font Monster by Joe Buckley.





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Apple & Commodore GEOS Fonts!!!

A series of good-looking, easy-to-read fonts, available to users of either Apple or Commodore GEOS. As an added feature, each of the fonts has a corresponding upside-down version, so you can more easily create greeting cards in GeoPublish!

10 point fonts
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Constance
Warwick
Quentin
Hanover

10 point fonts
Glendale.ud
*Constance.ud *
Warwick.ud
Quentin.ud
Hanover.ud

20 point fonts
Glendale
Warwick

20 point fonts
Glendale.ud
Warwick.ud

24 point fonts
Walton
Wilshire

24 point fonts
Walton.ud
Wilshire.ud

Includes two mega fonts (one used in this ad's headline) and their upside-down versions.

Send $20 ($30 if you would like both the Apple & Commodore disks) to:

Mr. Terry R. Mills
P.O. Box 3062
Barrington, IL 60010

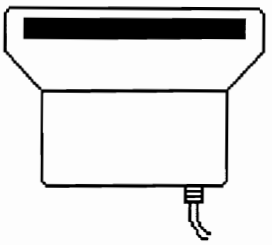
Be sure to specify whether you want the Apple or Commodore disk, or both. Illinois residents, please include 7% sales tax ($1.40 on $20 or $2.10 on $30).

*Due to disk space limitations, Constance.ud is not present on the Apple version.

GEOS Programs Directory

This is a comprehensive listing of all information about most all GEOS programs available. There are over 200 programs listed including programs from Berkeley Softworks, third party software companies, and public domain authors. This helpful guide will help you find the programs that will do almost anything you want to do in GEOS.

Send $5.00 to Peter T. Hughes, 151 Randolph Street, Canton, MA 02021



New Hand Scaner for C64

By John Brown

Handyscanner 64 is a unique product and the only one of its kind for the C64. I consider it worth the money and if you have a need for this kind of Desktop Publishing tool then it is a great buy. This scanner is imported from overseas and a few things (such as the manual) do have to be changed to make it a more viable product for sale in the U.S.

Handyscanner comes with an interface for the scanner that plugs into the RS232 port, excellent Desktop Publishing software, a 400 dpi hand-held scanner that has an effective scan width between 2.75 and 3.0 inches, and a power supply for the scanner.

To test Handyscanner I used a 1581, a "flat" C128, a 40 column monochrome monitor, a C1351 mouse, Jiffydos (v6.0), a Epson RX80 printer (9 pin) and a Panasonic KXP 1524 (wide carriage 24 pin) printer.

Handyscanner allows commands to be sent over the disk drive channel so you can switch partitions on drives, scratch files, etc. I believe it should work with any disk drive including a Hard Drive.

One of the reasons I consider this package a good value is not just because someone has found a way to hook up a scanner to the C64 but because the software that drives the scanner is excellent. It is full featured and very easy. It comes with the disk version of "Pagefox" and it supports a virtual bitmap of 640 x 400 pixels with tools to move around the bitmap easily either by gradual scrolling or jumping to a particular 320 x 200 pixel area.

Handyscanner also supports bitmaps up to 640 x 800 pixels with the addition of the Pagefox cartridge. The Pagefox cartridge is a plug in rom/reu for the cartridge port that has a 100k ram buffer and comes with the Pagefox software resident on the cartridge.

To capture images you specify what percentage of the screen you want filled with the image you are going to capture. The horizontal width can be set from 33% to 300% of the screen. You can also set the vertical height of the capture to lengthen or shorten a scanned in picture. The virtual bitmap area is divided into either 4 or 8 320 x 200 areas you can jump to or you can define your own 320 x 200 area in which to do closeup work.

Some of the features:

Scanner: The scanner comes with four controls, three of which you can adjust.

1) contrast switch

2) brightness switch

3) capture settings switch black and white or 3 levels of dithering for color scans

The scanner appears to be a regular PC hand-held scanner so you should be able to take it along if you ever upgrade to another computer. You should also be able to plug different PC scanners into the interface.

You can draw using solid lines or with patterns using the following tools: small pen, large pen, lines, squares, or circles.

Functions: Various functions can be picked that will be effected by the selection of previous commands. This is very useful for filling in areas or deleting them.

Clip: As soon as you clip an area it automatically puts you into Brush (stamp) mode. It is a very handy feature for pasting pieces together on the screen without having to go back to the menu and activate brush mode like so many programs force you to do. UNDO:

Sponge: (A sprite eraser) Pattern fills only effect the current 320 x 200 pixels area. Plus, you can lay one pattern on top of another for some really good effects. You can capture and save patterns to disk for later use.

Directory: Everything can be picked by the mouse. Usually there is no need to touch the keyboard for commands unless you are saving a file.

Merge: You can save sections and strips of the screen to disk for later recall. This is a very handy way of splicing a screen together that is wider than what can be scanned into the computer at one time. Also, you can save clips to disk to build your own clip art package.

Text: First, type the sentence. Then using the cursor you can position it anywhere on the screen. You can rotate it, flip it, etc. Suppose you find the phrase is too long and doesn't fit? No problem, just backspace and cursor around again to fit the sentence into its space. It's very easy and very neat!

Zoom: You can zoom into an area and edit it using the mouse very easily. You can click on and off individual pixels or if you hold down the "active" button to enter into a "on" or "off" mode that isn't exited until you click the button again.

Reduce: You can reduce the bitmap screen by 1/2 very quickly transforming a big scan into a clearer, condensed image.

Preview: You can preview the whole 640 x 400 or 640 x 800 area on screen at one time. This is accomplished by reducing the bitmap to a fair approximation of what the virtual bitmap will look like printed out. Of course, you lose the finer details but it is good enough for viewing the general layout and for placing graphics recalled from the disk.

Printouts: EXCELLENT! EXCELLENT! EXCELLENT! What is the sense of using a DTP program if it does not give the user a good printout? This is were the program really shines since it gives an EXCELLENT full page printout! You can also print out any of the predefined 320 x 200 areas, half a page or any 320 x 200 area you define. I found both the 9 pin and 24 pin printouts to be both good to excellent with the 24 pin printouts having no gaps between the pin strikes. Both were printed to fill a whole page from side to side and from top to bottom. Various speed and printout qualities are available . If you have a printer buffer you can dump a low resolution printout to the buffer for a test printout and go back to work a minute or so later. There is no need to stop working while the printer does its stuff. This program is fast! It also is blessed with a stop "printing" feature. Press the RUN/STOP button and it exits the print out mode.

It also appears to support every dot matrix printer that a C64 owner may have hooked up to his machine.

Short comings: A way to exchange graphics with GEOS, Basic

8, IPaint, AAS, and other graphic programs is a must so the captured images and screens can be colorized and used with our own DTP graphic programs and tools. As of this writing I am trying to get more details on the graphic formats.

Manual: Since I have a beta test manual that was translated from the German language (?), I can not really make a judgement yet. It is extensive and the editing is adequate . The manual needs a better indexing system and a clearer more precise English translation would be helpful. These faults certainly would not keep me from buying the product as the software can easily be used without even reading the manual. A good manual is needed though to get the most from any software, so an improvement is in order here.

Warranty: Six months (as far as I can tell).

Rating: Using a rating system of 1-10 with ten being the highest and best I give it a # 9 for productivity value

Availablity: a 2 week waiting period on orders placed at this time.

Where to buy it: Rio/Datel Computers
3430 E.Tropicana Ave #67
Las Vegas, NV 89121

Mon-Sat 8am-6pm (Pacific time) 1-800-782-9110 (ORDERS ONLY!!!) 1-702-454-7700 (Tuesday-Saturday tech line and customer support)

The Handyscanner is $299.95.

The Pagefox is $139.95

Call for the latest pricing and availability!!!!!

John Brown POB 111 Salem, MA 01970

I can be contacted online : Q-link = JBEE (I host the Starving Artists' Cafe Monday nights in the CIN/Graphic section and I am on every night) Genie = JBEE Compuserve = 76456,3667(once a week) Delphi = John Brown (once a month) Hope to see you at the Commodore/ Amiga Users Fair in Valley Forge, PA Sept 15-16,1990! < 8 bitters do it in bytes >

NEW INFORMATION

Format conversions: There are format conversion programs for the files (Doodle, Koala, AAS, OCP, "Cheese", even to GEOS!) available in commercial conversion progams available from Germany. The German to English conversions would take time and money. If you want these programs let them know when you call for the scanner. He might include them with the software or make them available for a nominal fee. Either way I think the scanner is a great deal.

One point that needs bearing out is that the scanner that comes with the package is not a cheap one! Plus, it's IBM plug compatible so you can bring it with you if you ever upgrade. How I break down the package myself - Interface $60, Scanner $200, Software $60. Which is why I consider it a good deal. Not to mention the uniqueness of actually bringing something like this to our 8 bit market. I commend Rio/Datel for their efforts. Even if you can't afford one right now, if you plan on buying one later let them know your interested! They want to know!

Summer specials: To promote the scanner during the summer RIO/DATEL is considering having a special. I suggested Advanced Art Studio packaged with the scanner. They were almost 99% for that idea. My thinking is scanned in objects need to be colorized, and once we have conversion programs, then AAS will be great!

GEOS Power Pak II: ReRUN Strikes Again

By D. Roderick Eamon

In my last *GeoWorld* article I reviewed ReRun's Power Pack disk, now called Power Pack I. I found it a delightful mix of powerful and useful software. One application -- *geoTerm* -- stood out as revolutionary because it opened a new area for geoUsers: telecommunications. Going the original GEOS Power Pack one better would be a feat. Frankly, I didn't think the programmers could pull it off. Then Power Pack II appeared in my mailbox...

What hath ReRun wrought with Power Pack II (hereafter, PP-II)? Is it better, worse... or simply a case of apples and oranges -- two totally different disks with only a nodding acquaintance? Let's start with a general overview:

Power Pack II

Re-Run's GEOS Power Pack II isn't an upgrade of PP-I, despite the inclusion of the new *geoTerm*. For instance, if you want utilities like PaintView II or AutoView, buy PP-I: the only similarity between the disks is that both sport software, graphics and fonts.

Hardware requirements are minimal. You won't need an REU or a second drive to use any application: everything on PP-II works with any hardware combination -- even the most basic of 64/1541 setups. Software needed: GEOS 1.2 or greater, 1.3 preferred.

Documentation

There is no PP-II manual. Instructions reside on the disk in either DocWright auto-run applications or as geoWrite text.

I consider this attack substandard for two reasons: 1.) it takes disk space that might be used for more utilities, fonts, graphics and 2.) people use GEOS because it's simple to handle (which PP-II's applications and utilities are, for the most part) but being forced to print out documents adds unnecessary steps and lengthens the learning process.

Applications

By now, most of us are familiar with *geoTerm* 1.0 from PP-I, so let's start there -- with *geoTerm 64* 2.0 and 128 2.1, by Bill Coleman. It's mostly good, only a little bad, news.

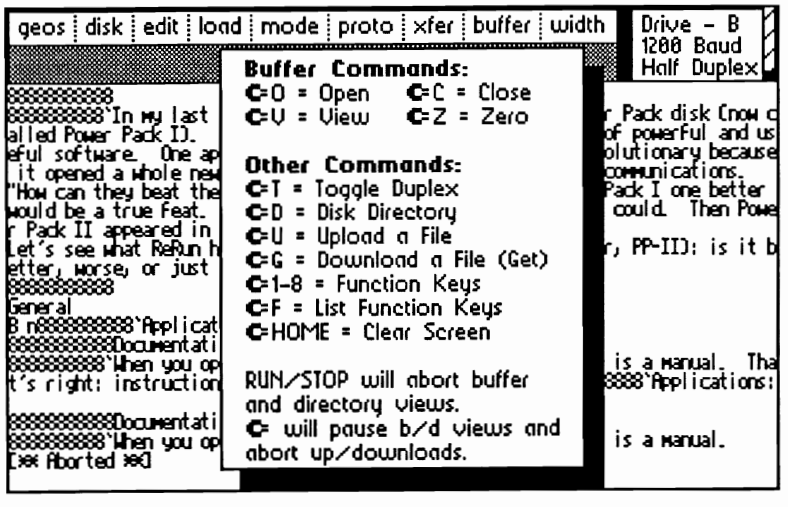
In geoTerm 2.X (both versions) -- due to limits within GEOS' Kernal -- changing word size/parity/stop-bit configurations isn't possible: only 8-N-1 is supported. As a result, geoUsers can't connect with a BBS or packet service that uses other settings (such as TymeNet and TeleNet, conduits to online services).

The good news: that's the only major drawback. For the more common word/parity/stop-bit (8-N-1) bulletin boards, geoTerm 2.X is so feature-laden it's better than 95% of the terminal programs available for Commodores.

Features include: unique "pull-across" menus, two-key shortcuts, dialog/GetFile boxes that makes life with GEOS consistent, and a width menu for 40, 54, or 80 column screens, (in both versions, any video mode, and simulated 80 columns in Composite mode). The 64 version has the best 80-column simulation I've seen -- far better than C=64 Kermit.

Modem control is excellent: 300/1200 baud selection, full/half duplex, a hang-up after download option, Punter and X-Modem (standard, CRC, and 1K byte), protocols are supported. Also included: a GEOS disk Nibbler protocol sends all or part of a GEOS disk to other geoTerm 2.X users with the same disk drive type -- and a BRF (Baud Rate Factor) adjustment to fine-tune geoTerm file transfers to eliminate re-sends, and more. You can also "preconfigure" baud rate, duplex, columns (40 or 80), and protocol (Punter or X-Modem) as main terminal defaults.

File handling is enhanced over the PP-I version. Read directories, change drives, scratch/rename files, or change GEOS files to Commodore Sequential files for Punter/X-Modem transfers with a built-in Convert utility (a simple version of Bill Coleman's excellent Convert 2.5).



Buffer features include ASCII/PetASCII buffer conversion, up/download buffer, as well as the usual open, close, load, save, and view functions. The only features I'd like added are a buffer editor and "online" time clock.

To ease going online, program the function keys for passwords and the phone book for telephone numbers. Phone book also controls custom modem/screen settings for individual phone numbers).

The only operational differences between the two programs are buffer size, screen refresh speed,

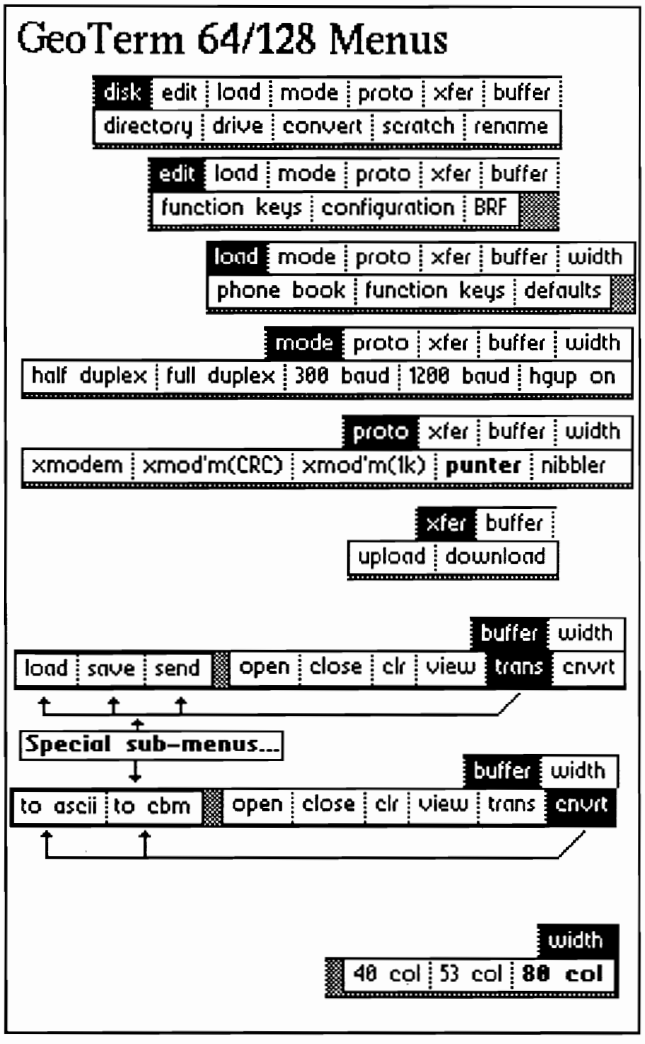


FIG. 1

and monitor support. *GeoTerm* 128 -- with its 30K buffer, 2mHz microprocessor, and 40/80 composite/RGB choices easily bests the 64 version's 9K buffer, 1 mHz speed, and 40-column composite display.

In operation, geoTerm generally performs as advertised. I found two minor problems beyond the word/parity/ stop-bit limits mentioned earlier: the 128 ASCII/PetASCII converter occasionally locks up the computer with large files, and the lack of documentation for adjusting the BRF (Baud Rate Factor) for error-free handshaking could be more concise in definition.

Besides these minor irritants, geoTerm 2.X is the only way to go online with GEOS: it's better than 95% of non-GEOS Commodore modem software. GeoTerm 2.X is a definite winner!

Q&D Edit

Here's the good news: *Q&D Edit* is a simple non-WYSIWYG text editor that manipulates true ASCII and PETASCII Sequential files, as well as the three geoWrite filetype formats. More, you can access desk accessories, import text scraps and use both 40 and 80 column video modes in GEOS 128. The docs don't explain it, but "Q&D" stands for "quick and dirty." The name, in most instances, is dead-on accurate.

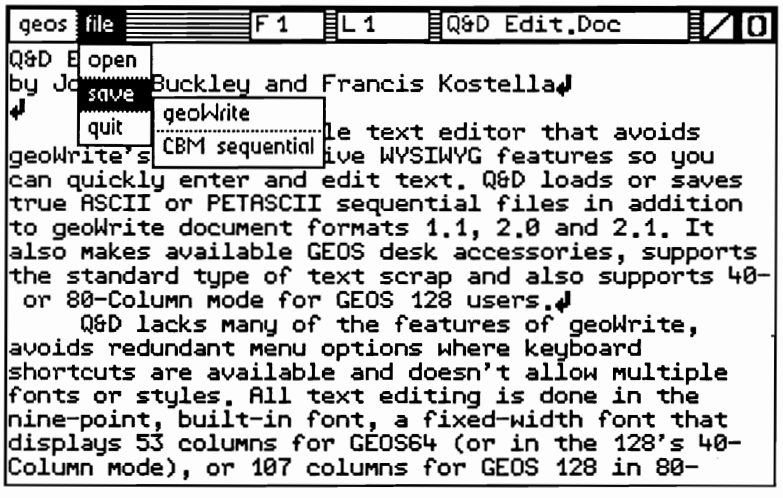
In GEOS 128's 80 column mode Q&D Edit, by Joe Buckley and Francis Kostella, is definitely quick. In GEOS 64, however, initial typing is fast but delete/modify operations crawl as Q&D "invisibly" re-writes the file for each change. Unlike geoWrite 2.0 and greater, scrolling by pointer isn't implemented. The screen displays a page at a time, and all text/style formatting is stripped when you import a geoWrite file. Only carriage returns and tabs transfer from the original geoWrite file. If you want to edit it in GEOS later on, use the Create new file option.

A memory-based word processor, Q&D has (by geoWrite standards) a limited text buffer -- about 9400 bytes or 1024 lines, whichever comes first. With ASCII and PetASCII files, only the first 9K reads into Q&D. Don't use Q&D to write the great American novel.

Q&D Edit is charming **because** it lacks geoWrite features. Gone are pull-downs where keyboard shortcuts (Cut, Copy, Paste, font and style choices) exist. Fine for simple tasks, Q&D's fixed-width internal nine-point font displays 53 columns in GEOS 64 or 53/107 columns in GEOS 128.

Q&D's Bottom Line: import/export ability (ASCII, PetASCII, or geoWrite formats) like Joe Buckley's Wrong Is Write makes this word processor unique. Many of its two-key shortcuts mirror geoWrite's. Q&D is memory-based: load, edit, store revisions as new files, or quit without saving changes -- all without changing the original.

These are valuable features -- one use is as

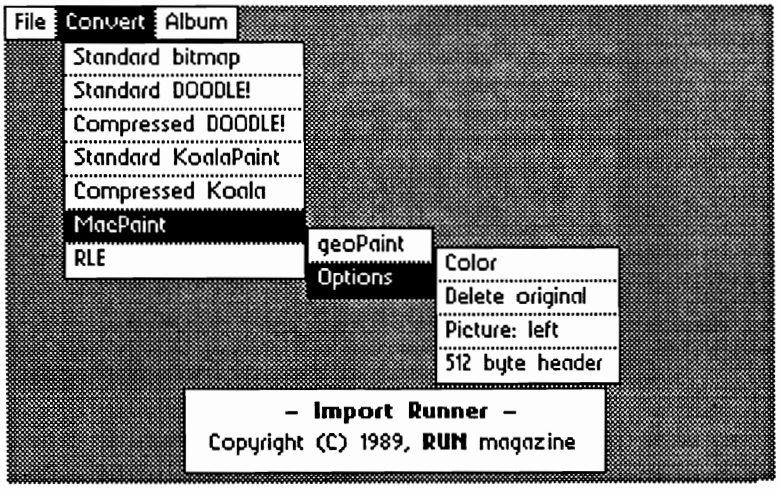


geoTerm's companion. Q&D Edit's size (19K) made a nice addition to my download disks that usually carry three programs (*HulmeView* [5K], *QuickView* [2K], and *Wrong Is Write* [10K]) to manipulate PETASCII E-Mail. Q&D performs these tasks and edits too, with a 2K savings of disk space.

Import Runner

The geoUniverse abounds with graphics converters: *Import Runner* (IR) by Joe Buckley is another, yet it's subtly different. A meld of Joe's two well-known converters -- MacAttack and Graphic Storm -- IR adds more flexibility to import chores.

IR converts: (Standard) Bitmap, DOODLE!, and Koala images; (Compressed) DOODLE! and Koala pictures; and RLE files to geoPaint or photo scrap files. Koala pictures are color, but color isn't supported. IR uses four sets of replacement patterns for the lost hues. One or more pattern



usually produces acceptable monochrome images.

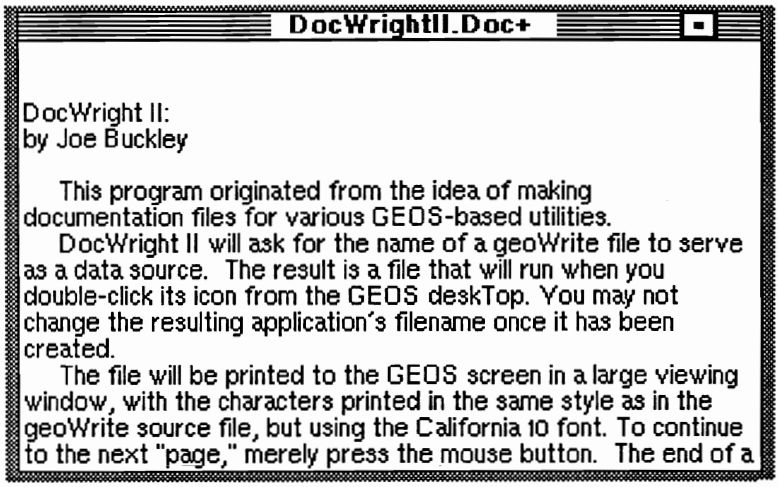
IR also handles MacPaint 512 & 640 byte header formats, allows foreground/background color selection, centering graphics, and can delete the MacPaint file after the geoPaint file is created.

With Compressed Koala/DOODLE!, MacPaint, and RLE file import ability, Import Runner is a welcome addition to the PrintShop, PrintMaster, and Newsroom convertion arsenal in Graphic Storm.

Do-It-Yourself Docs

Want to give someone a geoWrite file you don't want changed? You've created a Cray super computer emulator that runs under GEOS, but now can't afford printing costs of documentation -- what will you do, what WILL you do?

Use *DocWrightII* (DW-II), of course! DW-II



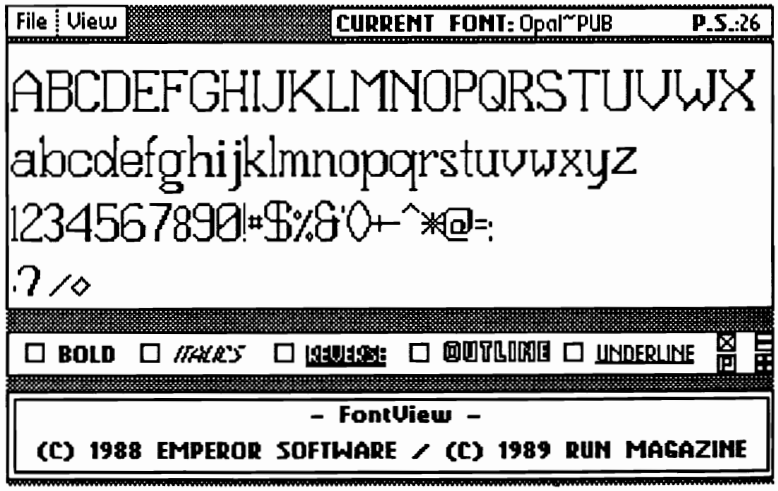
places geoWrite files into self-running "application" shells. DocWright data is read on-screen or printed (draft only). With DW-II, geoUsers need do no more than double-click the "doc application" and it loads: it's self-contained.

One drawback: you might need to delete a Cray printer file or two to make room for the DW-II doc on your disk: the "Application" routines adds three to four K bytes to geoWrite files.

FontView

Looking for that particular font you know will fit perfectly in your newsletter, but can't recall the name? *FontView* (FV) helps. FV displays complete fonts in all point sizes (though it only shows a partial screen of larger point sizes), and dumps font screens side-by-side to a printer.

On the first Power Pack II shipment, FV crashed when certain fonts were viewed. If you bought a PP-II disk and FontView generates system errors, download *FVP.SDA* -- FontView Patch, a self-dissolving archive -- from QLink or a



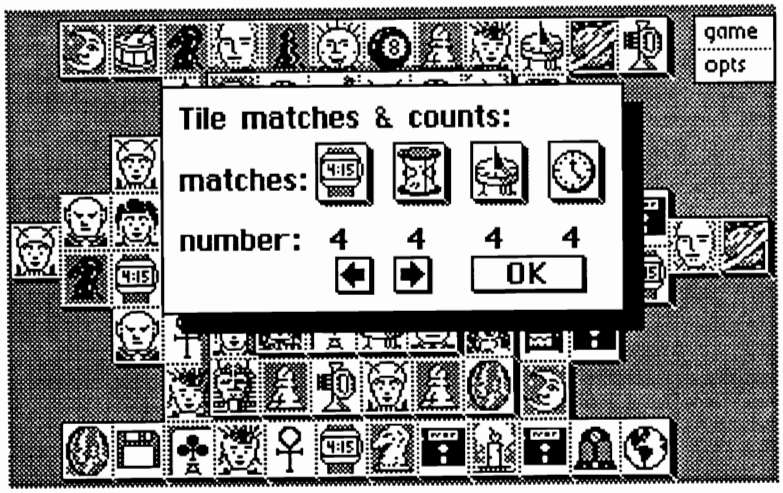
user group BBS that supports a GEOS Special Interest Group. If all else fails, contact RUN magazine's Re-RUN department.

Games, Games!

More than a productivity collection, PP-II contains a great selection of geoGames. These games are solid: none crashed during testing. Bear in mind, the games run in 40-column mode only and are monochrome in execution.

GeoTile: a "match-tiles in a tile-pile" solitaire game, as addictive as Tetris! A choice of two tile sets, a save option, and internal instructions complete this cousin of a German Atari ST game, *Drachen*. GeoTile rewards victors with a well-designed animation. **Personal Opinion**: geoTile is worth the cost of the PP-II disk... it's my favorite GEOS game!

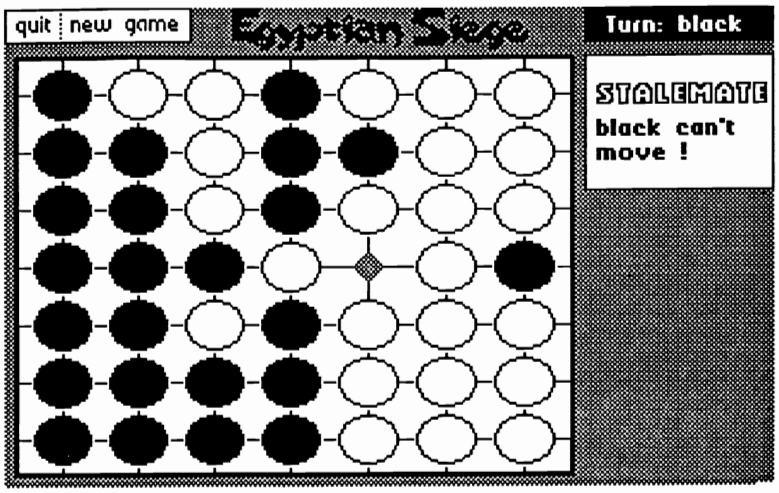
Shoot Out: a "Hogan's Alley" style arcade game: the player shoots hoodlums but not



(hopefully) innocent bystanders: four different screens, infinite levels, with built-in instructions.

Shoot Out works with a 1351 Mouse, but a joystick's better. With the 1351 I managed only 2200 points. In general, Shoot Out is a faithful rendition of Hogan's Alley, a pleasant diversion.

Egyptian Siege, a board game integrating elements of Chess, Checkers, and GO, offers two board sizes (5X5 and 7X7 matrix) and human/human or human/computer player options. The game's object: maneuver an opponent between your game pieces and then capture them until only one of their pieces remain. Naturally, the computer or your human opponent is trying to do the same thing to you. Separate documentation. On the surface, simplicity; yet Egyptian Siege is deceptive with unexpected strategic subtlety.



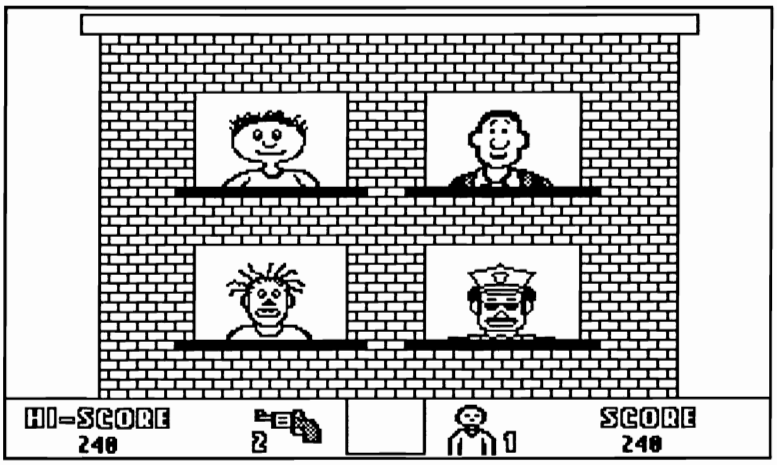
Fonts and Graphics

Like the first ReRUN GEOS disk, PP-II includes an excellent page of Lamb Art graphics in the RUNART FIVE file. Great fonts by Tom Treverrow (TT Grafix) round out this edition of the GEOS Power Pack series.

The Final Word

Power Pack II isn't a rewrite of Power Pack I: the two are as different as Pluto and Jupiter. PP-II is also the second disk modem-packing geoUsers should buy (GeoTerm 1.0 will access packet services). PP-II adds to graphics/font libraries, its utilities are first-rate and worth the investment, and the games are excellent. I play them too much lately -- especially geoTile!

Now, if I can convince Re-RUN to put Power Pack III together... (author's note: they did, in a way... although it's called GEOS Companion, this disk will prove a boon to music lovers, 1581 owners, and generally every GEOS user!)



Integrating GEOS

Drive a Hard Bargain

By Conrad Tillman

I started out to do a comprehensive report on the HD series hard drives from Creative Micro Designs. It soon became apparent, though, that such a report would occupy many more pages than I am prepared to write. The HD drives are not just another peripheral: they are complex computing systems in themselves which are nevertheless extremely easy to use. So let me begin again by pointing out that these columns are written months in advance of publication, and that my HD-40 is a "developer" unit whose operating system software is not yet complete and whose manual is still under revision. By the time you read this, the system software will no doubt have been superceded many times. Consequently, you should think of this report as a "snapshot" of the HD system as it existed in March of 1990.

The *Integrating Geos* column that appeared in the December '89 issue of *geoWorld* speculated about the possibility of a limited hard drive installation that would be compatible mainly with Commodore GEOS. By the time that column appeared, Creative Micro Designs was beginning to advertise their HD series drives, systems which far outstrip anything I would have hoped for. These drives, even in their currently incomplete version, are truly prodigious devices.

CMD

If you've been around the Commodore scene for a while, you've no doubt learned to be leery of advertising claims. It is all too easy to plunk down your hard earned cash in exchange for products that go plunk in return, sounding dull flat notes when they promised to sing. Creative Micro Designs is a standout company in this respect. Their products really do sing, and they seem commited to the old fashioned idea of exchanging value for value. First Jiffy Dos, and now the HD hard drives, exhibit the quality of having been designed by users of the equipment for users of the equipment. For CMD, it isn't enough that a product works: it has to work well.

"CMD has incorporated tremendous flexibility into the HD, a flexibility that makes it easy to incorporate into existing software."

The HD arrives protected by some truly impressive packing consisting of huge foam blocks. No flaked styrofoam here. The manual is clear, concise, and logically arranged, with only a few typo's back in the warranty section. The drive comes with a six month warranty, and extended warranties up to two years are available at reasonable prices. Most experts agree that electronic equipment will fail, if it fails at all before the expiration of its normal lifetime, in the first few hours of use. With this in mind, you can make your own decision about purchasing the extended plan. The drive does get quite warm in operation, so you will definitely want to ensure adequate ventilation.

Expectations

I had expected to devote several hours to getting this gadget hooked up and running. In particular, I anticipated trouble on the serial bus, which already supported two 1541's, one 1581, and two printers. The HD slipped right into the circuit with no complaints anywhere along the line. The most difficult part was finding a spot for the separate power supply among the nightmarish electrical spaghetti on the floor beneath the desk (someday I have to do something with that).

I had expected to encounter difficulties with device number conflicts, and at the least to have to rewrite some of my own system management programs. They will still need revision, but only to take advantage of the new capabilities of the system. CMD has incorporated tremendous flexibility into the HD, a flexibility that makes it easy to incorporate into existing systems.

It ships as device number 12, but through the HD Tools software provided can be configured to default to any device number between eight and twenty nine. A front panel switch instantly swaps device numbers between the HD and existing drives eight or nine. Also on the front panel are Write Protect and Reset switches.

I had expected that I would need to devote several hours to learning complicated command codes, and there are a few to be learned, but the overall control of the device is not much more complex than a 1541 from Basic 2.0. If you have Jiffy Dos v.6.x, the command syntax for the HD is greatly simplified. If you are accustomed to a 128 and Basic 7, you will need to learn Basic 2.0

syntax to utilize the HD without Jiffy Dos.

In all, the HD slipped effortlessly into my existing system, exactly as the advertising said that it would. So, despite my expectations and with thanks to CMD, I was able to lead this horse to water with no trouble at all.

And You Can Make It Drink

It's a well known fact that the world's most impressive computing hardware is just high tech junk without software to make it work. The HD is very software compatible, considerably more so than the 1581. I had expected to devote several weeks to determining what software would and would not make the translation to the HD. This will still be a major project, but much less involved than I'd feared. Naturally, you can use Snapshot or parameter utilities in conjunction with standard file copiers to transfer anything that might be persuaded to work on a 1581. You can also transfer software that would not make the '81 connection because of track and sector conflicts. If you have the right tools and knowledge, you can transfer almost any software that does not attempt to reprogram the drive.

For example, Timeworks titles will go, because the Swiftload feature is optional. Apparently the GEOS 64 boot will not (even in the '81 boot version) because it tries to install its disk turbo in hardware that is not actually present. I gather that this problem does not afflict GEOS 128. Programmer types may be able to create patches that can bypass the offensive routines in selected programs. Software Support, are you listening?

Copying whole disks to partitions on the HD should be no problem *if* you have copier software that leaves the drives alone. Maverick and Fast Hack'em will not work in this capacity, because they attempt to install "fast" routines that the HD cannot accept. Software Support has hinted that this will be addressed in an upcoming Maverick. CMD has also hinted that they will make suitable copier software available. In the meanwhile, if you still have any of the early copiers lying around, they may do the job on some titles (see text box).

Welcome to Hard Times

The whole point of a hard drive is its capacity. A 40 meg drive is equivalent to about 240 floppies in 1541 format, which is somewhat difficult to visualize. Try to stack about forty two 1581 style disks in your imagination, and you'll get the idea. To organize all this space to make it reasonably accessible, the HD must be divided into partitions. The unit comes with several already installed, and HD Tools provides the ability to create new ones or to delete existing ones. The power-up default partition can also be set via this software.

Partitions may be of several

Transferral and Transparency

The HD should be able to write anything to its virtual disks that your computer can tell it to, but this does not mean that it can subsequently boot everything transferred. The HD must be transparent to the software that runs from it. Most copy protection schemes rely on specific Commodore hardware or ROM characteristics not present in the HD. In general, this software will have to have the protection removed via software patches (parameters), or bypassed via post-protection memory dumps (Snapshotting). Software that is immune to these procedures and can't be booted from the HD can in many cases still use it for post-protection auxiliary files and for data. Except for GEOS, which is directly supported by the system as shipped, software that uses non-standard file formats will require whole disk copying to be transferred even after the protection is disabled.

Timeworks' *Word Writer 4*, for example, is not protected. Its thesaurus disk uses a non-standard format that file copiers cannot handle. I was able to install this program on the HD by using an old (and extremely slow, written entirely in BASIC) whole disk copier to transfer the thesaurus disk to a 1541 HD partition. A normal file copier handled the dictionary disk to another partition, and transferred the program, font, and data files to a 1581 style partition. I then defined a macro to issue a "change partition" command. Now, to check spelling or to use the thesaurus, I need only invoke the macro, enter the appropriate partition number, and proceed normally. When the operation is done, I just macro back to the main partition. I don't present this as being the optimal setup: it's only an early experiment but it works great.

Timeworks' *'Financial Planner*, on the other hand, runs fine from a single '81 partition after Snapshotting the main program and transferring all files to the HD via a standard file copier. This program would work entirely from a physical 1581 drive, *'Writer* would not. The flexibility built into the HD and the ready availability of simple tools makes it a good bet for a lot of commercial software, even for non-hackers like myself.

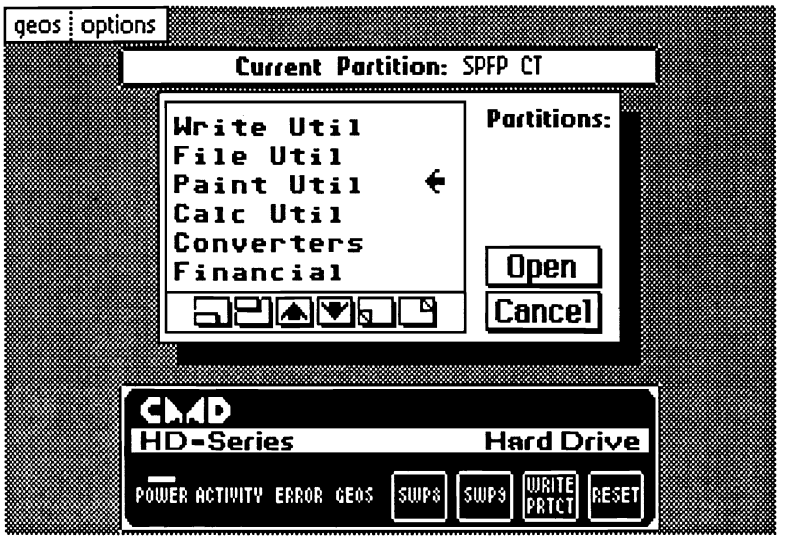
--CMT

types, including native, emulation, CP/M, printer, and foreign modes. The emulation modes (including CP/M) are the only ones currently fully supported by the OS, and are responsible for the high success rate of software compatibility. Briefly, these modes simulate a 1541, 1571, or 1581 disk within the HD. Track, sector, directory, and BAM layouts are mimicked adequately to fool most software into believing that it is dealing with an actual disk of the type being emulated.

The problem with partitions is that they are structural elements in the organization of the disk. The size, type, and layout of your partitions will ultimately determine the ease and convenience with which you can use the drive. HD Tools provides for their creation and deletion, but once the drive is in use the deletion process is to be avoided if at all possible. This is because partition blocks are stored contiguously, and deleting any but the last partition apparently forces the drive to exert some heavy duty move routines resulting in unnecessary wear and tear, not to mention the time involved to accomplish the task. The upshot is that it will pay to proceed slowly and cautiously in creating and naming partitions, carefully planning an organizational structure that will serve you well both now and in the future. An apparent anomaly in the current OS is that there is no way to rename partitions, a fact with important consequences under GEOS.

GEOS

Under the current OS, GEOS supports only 1581 mode partitions. Remember that stack of 3.5" floppies? As far as GEOS is concerned, they can all be present in a single drive. The deskTop will show the HD as a normal drive icon with the name of the currently opened partition, and you access it exactly as though it were a 1581. There is a program provided (see



Quickmove is a GEOS 1581 partition switcher and file copier.

illustration) to enable you to move from partition to partition within the HD. Double clicking it displays a table of available partitions, from which you select the one you want. The table is then replaced by a directory listing from the selected partition, and you can choose to enter the deskTop on the virtual disk it represents or cancel the operation and enter another partition. The program also incorporates a file copier that will transfer up to nine files at a time from one partition to another.

You can rename these virtual disks in the normal way and the name will show on the deskTop as expected. The partition table, though, the means by which you move among virtual disks, is stuck with the partition names that were assigned when they were created. Without some very careful forethought, this can make navigation considerably more difficult than it ought to be. Presumably, this will be addressed in future releases of the OS.

Another drawback of the current arrangement is that the virtual 1581 disks function exactly like real ones, including the infamous "disk near full" error that occurs while you still have hundreds of blocks free. CMD has stated that subpartition support is in the works for GEOS mode, which ought to eliminate this particular problem but will also effectively reduce the size of the workspace. The end result here can be a lot of wasted disk space, and 40 megs isn't that much space when you're dealing with '81 sized partitions. The implementation of 1571 style GEOS partitions will alleviate a lot of this particular problem, and there may be ways around the "near full" problem. A calculating patch to the free space routine comes to mind.

Multiple drive configurations of software function normally between the HD and other drives in your system, so you can have applications on one drive and data on another. Only one HD partition can be accessed at a time, so you cannot run applications and data from separate partitions. This is not necessarily the case outside GEOS, particularly with older software, but that's a subject for another column.

As I said, the 'System believes the HD is a 1581, and if you have an REU you can use the techniques outlined in *Integrating Geos* #17 to swap drive numbers, run non-Geos software from the deskTop, then Rboot back to GEOS.

REU and HD Speed

I was hoping for a disk cache in the REU for programs running from the HD, and I suppose this will be available under 41/71 emulation. The pleasant surprise in this regard is the incredible speed and smoothness of the HD under GEOS. Delays for program overlays are hardly noticeable, and 'Paint documents scroll very smoothly. There is none of the audible bumping and grinding associated with these operations on Commodore drives, only a soft steady whirr from the HD's motor. It is definitely faster than even the 1581, but it still is a serial device: DA's do take a while to appear, and there is a noticeable wait in returning to the deskTop. It will be interesting to see whether the reported transfer rates for the upcoming parallel connection will translate into the GEOS environment. If so, the HD will almost function as virtual RAM.

Even so, the best way to use the drive under GEOS may be as an online repository for all your files, and to copy them over to a RamDisk workspace. Programs on *Storm Systems Disk I* or the *RUN GEOS Companion* are able to automate the copying process to make it as quick and painless as possible. Why make such an expensive piece of equipment work harder than it has to? Another program that will come in particularly handy in HD partitions is one of the alternate deskTops like John Howard's *QuickTop* or *Wormdesk* by Payton Snyder.

Oh yeah, I almost forgot to mention another GEOS feature. The HD has a battery backed real-time clock, and this is accessed automatically by an auto-execute file that must be on the boot disk to facilitate the HD recognition process. You'll never again have to set the GEOS system clock after booting with the HD installed.

Into the Future

Like all Commodore compatible drives, the HD is an intelligent device. It has its own operating system software running on its own 64K two Mhz computer. The HD operating system software is stored on a special partition of the drive. It is automatically downloaded to the drive's computer on power up. This scheme enables users easily to install updates and revisions to the system software.

According to CMD, future software enhancements will support dynamic subdirectories in native mode partitions (which may be up to 16 megs in size), and enable GEOS to operate in these partitions. Given the "disk near full" problem mentioned earlier, it will be interesting to see this implemented. A large array of goodies are promised, such as device number translation and additional system utilities. Also mentioned as being "in the works" are GEOS subdirectories, and an intriguing notion called a printer partition. This will supposedly allow the HD to operate as a printer buffer, enabling your computer to go on to other tasks while the HD prints your document. Given CMD's record, I am not inclined to disbelieve any of these claims. Also envisioned are foreign mode partitions enabling a section of the HD to be used by other computer brands in addition to (as opposed to instead of) your Commodore.

The HD is a SCSI device, which means that it conforms to a standard designed to eliminate much of the brand specificity of peripheral devices. The CMD drives reportedly will operate with IBM, Atari, Apple, and Amiga computers, requiring only a suitable SCSI controller (built into the Mac, ST, and Amiga already) for the computer. The drive comes with a Commodore SCSI controller built into it. This and the onboard computer account for the price difference between the HD and similarly sized drives for more modern systems. Besides portability to other computer makes, the SCSI interface opens the door to possible peripherals beyond those specifically Commodore compatible.

The SCSI standard supports any I/O device, including high speed tape backup units, printers, scanners, CD ROM, and WORM drives. It also allows the daisy chaining of additional hard drives or compatible floppy units. There is an SCSI port on the back of the HD enabling these devices to be connected. To use any of these devices other than disk drives, there would have to be driver software written specifically for Commodore computers and that most likely would require extensive overlaying, so I would not hold my breath. The possibility nevertheless does exist.

Beyond all of that, CMD has another product in development that promises to make the HD even faster and your computer even more powerful. RAM-LINK will reportedly provide parallel connection to the HD, boosting its speed with a reported LOAD time of two seconds for a 154 block program that takes 95 seconds from a stock 1541, with all other disk I/O accelerated proportionately. RAM-LINK will, in addition, provide for the connection of a megabyte (or possibly more) of additional, separately powered RAM to your computer. Hmmm.

Down to Earth

The bottom line, and the summary of this report, is this: the CMD hard drives are here. They work well, both in and out of GEOS, and they are reasonably priced. They require no special knowledge to use, no special cables to connect, and no extra products to buy. If you don't already have Jiffy Dos, I highly recommend acquiring it

along with your HD. It makes the drive even faster than it already is, and greatly simplifies its operation, not to mention what it can do for the rest of your system.

Even with the early version of the system software considered here, the CMD drive is a highly usable unit that promises years of enhanced computing enjoyment. I can hardly wait to see what goodies future versions of the system software will reveal. Programmers, especially GEOS programmers, are urged to jump on this. I would expect a small but dedicated market for your efforts, and hope to see some outstanding utility, organizational, and navigational software emerging soon.

-- Conrad Tillman

Creative Micro Designs
50 Industrial Drive, PO Box 646
East Longmeadow, MA 01028
(Jiffy Dos, HD drives, RamLink)

Software Support International
2700 NE Andresen Road
Vancouver, WA 98661
(Super Snapshot, Maverick)

ReRun
PO Box 802
Peterborough, NH 03458-9971
(GEOS Companion)

Storm Systems
c/o Joseph Buckley
464 Beale Street
W. Quincy, MA 02169
(Storm Disk I)

Booting GEOS from the CMD Hard Drive

By Conrad Tillman

You can boot GEOS-64 from the HD with the aid of Maverick v3.0 or higher. I had tried both the Maverick and GEOS Companion versions of the 1581 geoBoot in a 1581 HD partition with no success, and arrived at an erroneous conclusion. The problem is (or was) that I consider my master disks to be essentially untouchable. To create a working HD boot, though, you must delete the standard Configure file from the master disk and replace it with the HD Configure file provided on the CMD GEOS Utilities disk. Once this has been done, Maverick will create a bootable set of GEOS files on a 1581 HD partition.

For the benefit of those without access to the CMD board on Q-Link, here is the procedure. Boot GEOS with your master boot disk. Move the Configure file first to the border, then to the trash can. Copy the HD Configure file and HD Time from the CMD utility disk to your master boot disk. Exit GEOS. Write- protect your master disk. Set your HD to device nine and open a 1581 partition. Load Maverick and select the '81 boot option under GEOS Tools. When Maverick has finished, exit to BASIC, then reload GEOS from your master disk. Copy the Configure, HD Time, input and printer drivers, pad and preferences files to the HD partition. Then copyQuick- move from the utility disk into the boot partition, and transfer a copy of the deskTop that has been subjected to the Maverick treatment as outlined in the Maverick manual. That's all there is to it!

You can set up multiple boot partitions on the HD by file-copying the resultant set of programs to a floppy disk, opening a new partition, and copying the boot programs to the new partition, all from the deskTop. This is great for booting GEOS into different system configurations. --CMT

Cartoon by Dale Beach

Font Coping with Font ID Numbers

By Dick Estel

Recently a co-worker of mine, Steve Jones, was sitting in the waiting room of his lawyer's office. Another man was also waiting. The receptionist came to the door and called, "Steve Jones." Both men stood up.

This is not a particularly unusual occurence with a name like Jones, but it doesn't happen every day either. All this is a roundabout way of pointing out the confusion that occurs because we have millions of people in the world but relatively few names by which we are identified. To get around this, the government and most of the businesses we deal with identify us by a unique number.

The same confusion can exist in the GEOS world when an application calls for a font. Sensibly, the programmers at Berkeley Softworks identified fonts by number. Unfortunately, nothing was done to prevent assignment of duplicate ID numbers. And since the maximum font ID number is decimal 1023, duplication is inevitable as the number of fonts increases.

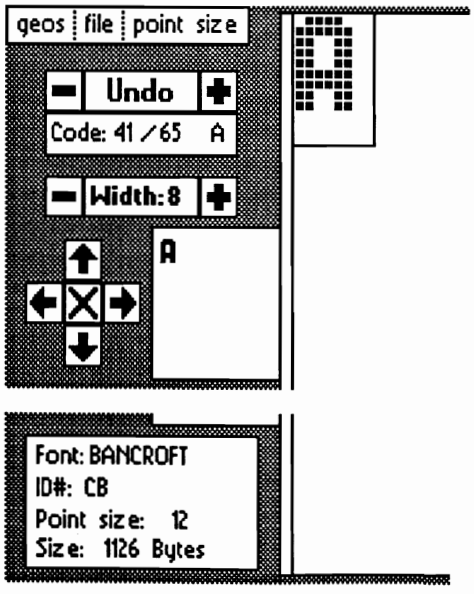
The situation was made worse by the method used by Arthur Dahm III's geoFont program to display the font ID--it shows only the low byte (last two digits) of the four-digit hexadecimal ID number. This forced font designers using this program to assign a number between 0000 and 00FF, which translates to 0 to 255 in decimal. Thus four or five hundred fonts were created using only the first 255 available ID numbers.

Most of the time the end user could care less what the font ID number is. You click on the desired font name, and that's what you get. But if you have two fonts with the same ID number on your disk, GEOS will use the first one, regardless of what you had in mind.

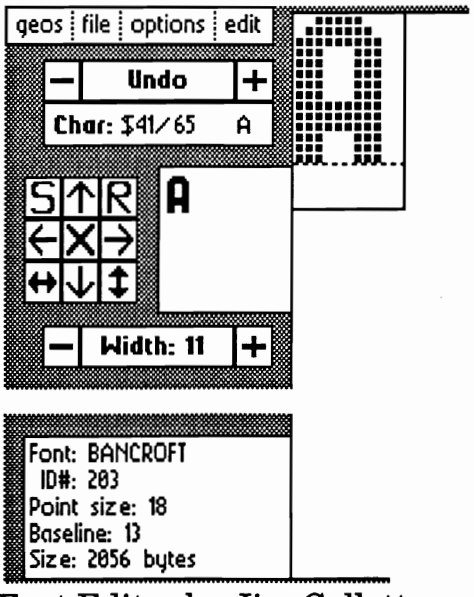
I first became aware of the profusion of duplicate ID numbers when I started compiling the GEOS Font Resource Directory, which is essentially a printout of various fonts. In addition to showing users of the directory what the font looked like, I wanted to list the ID, to help identify situations where two fonts had the same number. At first I was not even aware that some editors display the ID in hex and some in decimal, so I listed some incorrect ID numbers. Once this was sorted out, my next lesson was about the situation with the two-digit numbers versus four-digit.

After I had learned all this, I started revising the index to my directory, to include a listing by decimal, and a listing by correct four-digit hex numbers.

The tools I used for this were Jim Collette's Font Editor, which displays the number in decimal, and a printed conversion table to determine the full hex number. This was a long, tedious process, but



GeoFont by Art Dahm



Font Editor by Jim Collette

the result is a listing of over 600 GEOS fonts with the (hopefully) correct decimal and hex ID numbers.

Some users of the Directory have suggested that I become a clearing house for GEOS font ID numbers. That is, I would assign unused ID numbers for new fonts. Although I could do this, there are some obvious problems, not the least of which is getting all those people making fonts to cooperate!

The best suggestions I can offer are these: If you are creating fonts, use decimal ID numbers of 300 and above. This will greatly reduce the chances of duplication, although there are at least 50 fonts with these numbers in the directory. At least you can avoid using numbers like 00AD (173) which has been used at least 15 times or 0068 (104) which shows up six times in my directory. Also don't use 400, 500 or 1000, which have been assigned to a large number of fonts. By the way, you CAN'T assign an ID number higher than FF with geoFont, since it will only accept two characters.

For users who have two favorite fonts with the same number, simply use a font editor or an ID edit program to change the ID number. After all, even when you have over 600 fonts available, as I do, you probably will use only a dozen or so for most of your work. The early version of Jim Collette's editor, 2.2, is available on Q-Link. Although it does not have all the features for creating and editing fonts that are found in the later commercial versions, it is certainly adequate for changing ID numbers. There is also an ID edit program on Q-Link that runs from BASIC.

The problem with ID number duplication has gone on too long to be undone. The best solution is to be aware of it, and have the tools to change ID numbers where necessary.

(Editor's note: Dick's Font Resource Directory may be ordered by sending $10 to Dick Estel, 3487 E. Terrace, Fresno CA 93703. Font Editor 2.2 and Font Editor Docs are on Q-Link, uploaded by Rob Siegel. Font ID Editor is on Q-Link, uploaded by JimBob2.)

Inside Geos

A programmer's eye view into the world of Geos

By William Coleman

For the last two issues we have been exploring our first complete application - Convert V2.5. In this issue we will explore the routines that take a converted Commodore file and convert it back into Geos format.We will also look at a few more of the miscellaneous utility routines.

From the Top

The top level routine is called *ToGeos* (see listing 1). As you can see converting a file does not take very much code at all! When this routine is called*workBuf* contains a copy of the file's directory entry and diskBlkBuf contains the first sector of the file (which in the case of a converted file is the Convert Info sector).

First we stash the sector link for the info sector in *chedlink* . We'll use it later on to free the sector. If you will recall this sector was added by Convert when the file was originally converted. It will have to be unlinked and freed up in the disk's BAM.

Next we extract the relevent information from the info sector. We first move the original directory entry to *deBuf* . Then we take the link from the info sector and move it to the header link offset in deBuf. The Geos header is stored just after the info sector in a converted file so the info sector link actually points to the header sector.

Note that we stored much more information in the info sector then is currently utilized. This was done only to maintain compatibility with the original Convert's. Future versions may use the additional info.

Next we read the Geos header into diskBlkBuf, move it's link into deBuf (this link points to the file proper, i.e. where the directory entry

Listing 1

ToGeos:

```
;Converts a file from Commodore to Geos format
        MoveW  workBuf+1,chedlink
        MoveS  diskBlkBuf+2,deBuf,ENTSIZE
        MoveW  diskBlkBuf,deBuf+HLOFFS
        LoadW  r4,diskBlkBuf
        MoveW deBuf+HLOFFS,r1
        jsr    GetBlock
        jsr    CheckError
        MoveW  diskBlkBuf,deBuf+1
        LoadW  diskBlkBuf,$ff00
        jsr    PutBlock
        jsr    CheckError
        MoveW  delink,r1
        jsr    GetBlock
        jsr    CheckError

        MoveW  deoffs,r5
        ldy    #ENTSIZE
80$:
        lda    deBuf,y
        sta    (r5),y
        dey
        bpl    80$
        jsr    PutBlock
        jsr    GetDirHead
        MoveW  chedlink,r6
        lda    version
        cmp    #$12
        beq    90$
        jsr    FreeBlock
        bra    95$
90$:
        jsr    $9844
95$:
        jsr    PutDirHead
        lda    deBuf+STOFFS
        beq    97$
        jsr    RipVlir
97$:
        jmp    USuccess
```

should point), change the header link to $00, $FF, and write the header blockback to the disk.

At this point we have the completed original directory entry in deBuf and a header block that is standing alone as it should be. Now it's time to update the directory entry that is on the disk.

The variables *delink* and *deoffs* where defined earlier. The former is the link to the sector that contains the converted file's directory entry, and the latter is the offset within the sector. So, we move the link to R1 and load the directory sector into diskBlkBuf. Next we copy deBuf into the sector (deoffs holds the actual address inside of diskBlkBuf) and write the sector back out to the disk.

Finally we use FreeBlock to free up the info sector. Note that if the Geos version number is V1.2 we must make a direct call into the Kernal because there was no jump table entry for FreeBlock until V1.3.

If the file is not a VLIR file then we are finished! If however the file has a VLIR structure then there is more work that we still need to do!

VLIR Files

If you will recall the Index Sector of a VLIR file is converted to a sector of block-count/#-bytes-in-last-sector pairs. So what we will do is step thru the whole file, sector by sector, and seperate the records, building a new index sector as we go. The routine the does this is called *RipVLIR* (see listing 2).

We will be using the low-level drive routines to increase the speed of conversion as much as is possible. ExitTurbo turn the drive's turbo code on and InitWithIO completes the job.

The SetIndex call merely sets up R1/R4 to read the index sector into workBuf.

Once the sector is read in, R1 is set to point to the next sector in the chain (the first sector of the first record). *offset* is used as a pointer into the index sector. It is initialized to two in order to bypass the sector link.

Listing 2

```
RipVlir:
;Seperates the records from a converted VLIR file.
        jsr     EnterTurbo
        jsr     InitForIO
        jsr     SetIndex
        jsr     ReadBlock
        MoveW   workBuf,r1
        LoadB   offset,2
10$:
        tay
        lda     workBuf,y
        beq     40$
        sta     blkcount
        MoveB   "workBuf+1,y",bytcount
        MoveB   r1L,"workBuf,y"
        MoveB   r1H,"workBuf+1,y"
        LoadW   r4,diskBlkBuf
20$:
        jsr     ReadBlock
        jsr     ChkError
        dec     blkcount
        beq     30$
        MoveW diskBlkBuf,r1
        bra     20$
30$:
        PushW   diskBlkBuf
        LoadB   diskBlkBuf,0
        MoveB   bytcount,diskBlkBuf+1
        jsr     WriteBlock
        PopW    r1
        jsr     ChkError
40$:
        AddVB   2,offset
        bne     10$
        LoadW   workBuf,$ff00
        jsr     SetIndex
        jsr     WriteBlock
        jsr     ChkError
        jmp     DoneWithIO
```

The bulk of this routine is a loop that begins at 10$ and extends to 40$. First the block count of the current record is read. If it is zero then the record is empty so it will branch down to get the next record. If it is not then *bytcount* is loaded with the last-sector count and the true track and sector is copied from R1L and H into the record pointer.

20$ begins an inner loop that will simply step through*blkcount* sectors. Once the last sector is found it's link is saved on the stack and the proper link (0,bytcount) is copied in. The sector is then written back to the disk. The link is then pulled off the stack and into R1 to set up for the next

record.

The code beginning at 40$ is where we will wind up when a record is complete or if it is found to be empty. Two is added to offset to move it to the next record. If it is now zero then the entire sector has been completed. If that is the case the sector link of the index sector is set to $00, $FF and it is written back out to the disk.

The last thing we must do is shut down the disk turbo. The file conversion is complete. Now that wasn't too hard, was it?

Odds and Ends

Figures 4 thru 6 list some miscellanious routines used throughout Convert. They are rather self-explainatory so I won't go into them any further here.

That'll about do it for this month I'm afraid. Next time we'll take a look at the various tables/boxes/routines that Convert uses and I'll introduce a tricks that I've picked up that will help you to spruce up your applications.

Listing 5

```
InitDirRead:
;Version independent version of Get1stDirEntry
;Ret: r5 - diskBlkBuf+2 (i.e. 1st dir entry)
;   X - disk error
        lda     version
        cmp     #$13
        bcs     10$
        jmp     $c9f7
10$:
        jmp     Get1stDirEntry


NextDirEntry:
;Version independent version of GetNxtDirEntry
;ret: r5 - points to next directory entry
;   Y - non-zero if no more entries,  X - Disk Error
        lda     version
        cmp     #$13
        bge     10$
        jmp     $ca10
10$:
        jmp     GetNxtDirEntry
```

Listing 3

```
SetDiskText:
;Pokes proper drive letter into onDrvText
        lda     curDrive        ;Set 'On Drive: ?' text
        add     #'A'-8
        sta     onDrvT1
        rts
```

Listing 4

```
FindAddress:
;Takes offset into selectBuf (Y) and converts to absolute address in
;nameBuf. Returns address in r0.
        lda     selectBuf,y
        sub     #1
        sta     r0L
        LoadB   r15,17          ;* 17
        ldy     #r15
        ldx     #r0
        jsr     BBMult
        AddVW   nameBuf,r0      ;r0=addr of filename
        rts
```

BlasterPaks

I have put together a brand new disk containing the complete source for Convert plus several other goodies including color handling, and a Desk Accessory manager.To order your copy simply send a check or money order for $10.95 to:

William Coleman
BlasterPak II
1431 Pacetti Rd
Green Cove Spgs, FL 32043

Of course BlasterPak I is also available. Be sure you specify which disk you desire. As always if you have any problems, questions or suggestions about Geos, feel free to leave me EMail on Genie (my address is WC.COLEMAN) or drop me a line to the above address. Happy 'puting.

Commodore to Apple GEOS

By Bruce A. Cole

I have been anxiously awaiting my GeoWorld disk #5 since reading that BIN.TO.GEOS had been developed to import data and font files from Commodore GEOS to Apple GEOS. My background with GEOS started a few years ago using a Commodore 64, one 1541, and no ram. I previously used the typical variety of non-integrated programs like Multiplan, Paperclip, etc etc. Once GEOS started developing on the Commodore, I got it and loved it. Initially, with only one drive it was only a novelty, since it was too slow and too much disk swapping. Then I got a second 1541, then a 512k ram, then a 1581, and eventually replaced the 64 with a 128D. I absolutely love GEOS and have sold or shelved almost all my non-GEOS Commodore software.

Currently, being a middle school teacher, and using Apples at school, I was delighted when the GEOS for Apple was available (with the future outlook of a possible network with Commodores,) and I finally decided to buy an Apple computer. I use GeoWrite/ Paint/ Publish/ Calc/ File on a IIGS with a ramkeeper and 1 meg ram, and on a IIc+ with a 1 meg ram disk. GEOS is even more wonderful on an Apple with much larger ram disks, faster system clock speed, fast affordable hard disk drives, and I believe some advantages over the Commodore environment, such as folders (subdirectories), and the ability to directly switch from one application to another without exiting to the desktop. With the Ramkeeper on the GS, I can boot GEOS from "ROMDISK" in about 10 seconds, before the monitor even warms up.

Seeing that there was a shortage of Apple GEOS fonts, and neither font editor nor fontpack in sight for use on the Apple, I experimented. Using a Commodore sector editor, I broke apart font files into seperate point sizes, then transferred them to an Apple via RS232 connection at 9600 baud, then used an Apple disk editor to recreate a single file, and attached that file to an existing Apple font icon. I have previously tediously converted several of my favorite Commodore GEOS fonts to Apple GEOS by using information I received from Matt Loveless at Berkeley through the GEOS Share Network. I also learned a whole lot about disk storage techniques of both GEOS systems. The BIN.TO.GEOS program appears to do automatically what I did manually, and do it much faster and even does the icon transfer and other disk housekeeping chores that I did manually by calculating in binary/hex/and decimal bases. I am extremely grateful for the BIN.TO.GEOS program, and hope it can eventually be refined to be a GEOS desktop accessory or application and operate within GEOS. I have had terrific success using BIN.TO.GEOS converting font files, geowrite and geopaint files. It does not seem to work moving GeoCalc, GeoFile, and GeoPublish files from Commodore to Apple, as Terry indicated in the initial article about these conversion programs.

I have not seen much mention of the BSW CONVERT program for the Apple in magazines or on the national networks. It is similar to the BSW CONVERT for the Commodore. Both operate in GEOS, and allow conversion of the GEOS VLIR files into standard files which can then be transferred via telecommunications programs. Unfortunately the Apple CONVERT is not compatible with the Commodore CONVERT, so even though the GEOS font and data files are basically identical (other than disk operating system parameters), the two BSW CONVERT programs fall short of a wonderful opportunity for GEOS becoming a functional link between the Apples and Commodores. The real benefit of the BSW Apple CONVERT over the BIN.TO.GEOS is that it handles multiple files on a disk, and you do not have to exit to basic, but it only transfers Apple GEOS files between Apples. If BIN.TO.GEOS, and GEOS.TO.BIN could be developed into the equivalent of the BSW Apple CONVERT, I think it would be a great step forward in the successful future of the GEOS operating on the Apple computers. As BIN.TO.GEOS and GEOS.TO.BIN exist now, they present wonderful opportunites for the future of the two most popular 65XX 8-bit computers. One minor improvement I'd like to see is the capability of the BIN.TO.GEOS to accept TXT type files, since when downloading the Commodore GEOS files, I cannot force them to be BIN files when receiving them. I have used a disk editor to change the file type, once it has been transferred onto an Apple disk from TXT (04) to BIN (06), and then the files can be successfully converted. I have also done a very minor modification to the BIN.TO.GEOS program and named my version TXT.TO.GEOS since it will only read TXT files. I think it would be better if the original program could have a subroutine written into it to detect a TXT type Commodore file, change the file type to BIN, and then proceed with the conversion process. For now anyway, I have two effective programs that will make my task of converting my many Commodore GEOS data and font files to the wonderful new world of Apple GEOS.

Since writing this, I have been in contact with Terry Van Camp, and he has informed me of a 2 line patch for his BIN.TO.GEOS program that will allow it to process either TXT or BIN type files for importing Commodore GEOS files into Apple GEOS. He has given me permission to include this patch in my GeoWorld article, so here it is. I have tested the patch on both TXT and BIN files with great results.

```
210 POKE E1+16,6:RW=129:GOSUB 2000:RW=128
215 if ER=1 GOTO 4500
```

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