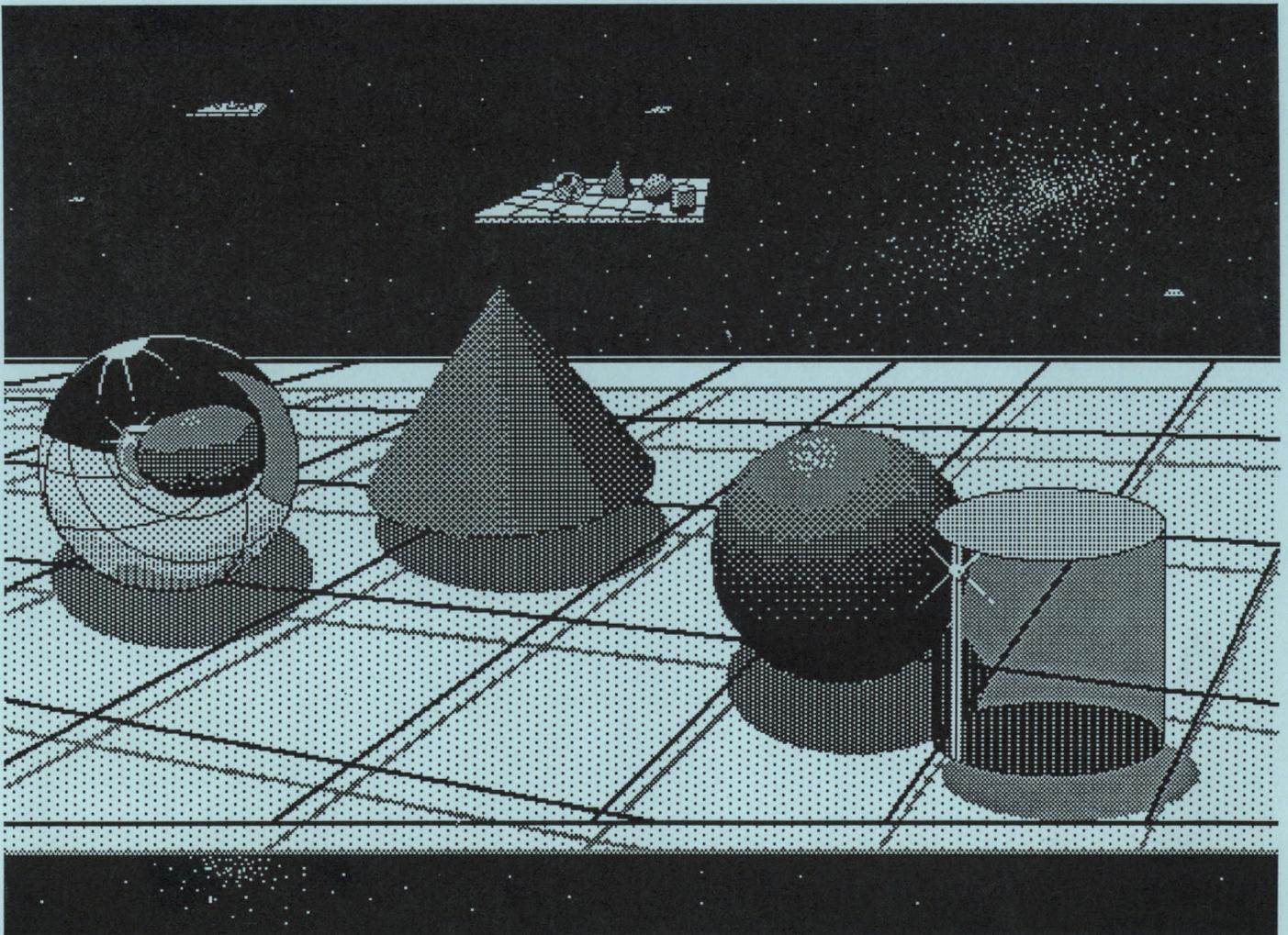


# GEO WORLD

June, 1987

Volume 1 issue 4

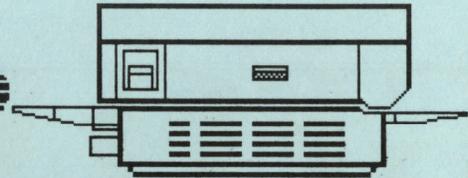
Published with a Commodore 64/128 using the Graphic Environment Operating System



Objects Out There

-Bert Monroy '86

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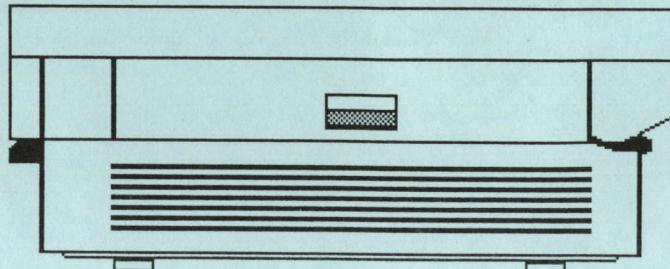
Milwaukee, Wisconsin 53220-0913

(414) 543-9923

(Above # is the *LaserDirect* BBS # from 10pm-7am CDT)

9-5 daily (Generally here weekends)

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# GGEOWORLD

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## *As the world GEOS by...*

Hello Everyone! We have been getting some nice comments from all over about our publication. I would like to again thank those who have given us support, if it wasn't for the effort by our contributors GGEOWORLD would be nothing.

We have recieved GEOfile and will be transferring all subscriber information over to it this coming month. We will be doing a complete review of GEOfile in a future issue, but I would like to say a few things about it. The manual is very easy to use. Each chapter is divided into 5 sections, introduction, overview, step-by step, practice example, answers to "what if" questions. It is by far the best documentation BSW has produced. GEOfile is much easier to use and more versitile than any other data base available for the 64.

On the news front, Randy Winchester (author of many GEOS programs in public domain) is offering SEQ->Text Scrap 2.0 . This is a high volume, user friendly program for converting SEQ files into a format usable by GEOS programs. GEOS fonts can be selected for Text Scraps, making the program ideal for preparing files for laser printing. The program (\$15), along with public domain programs (and documentation) is available from Randy Winchester, P.O. Box 1074, Cambridge,MA, 02142.

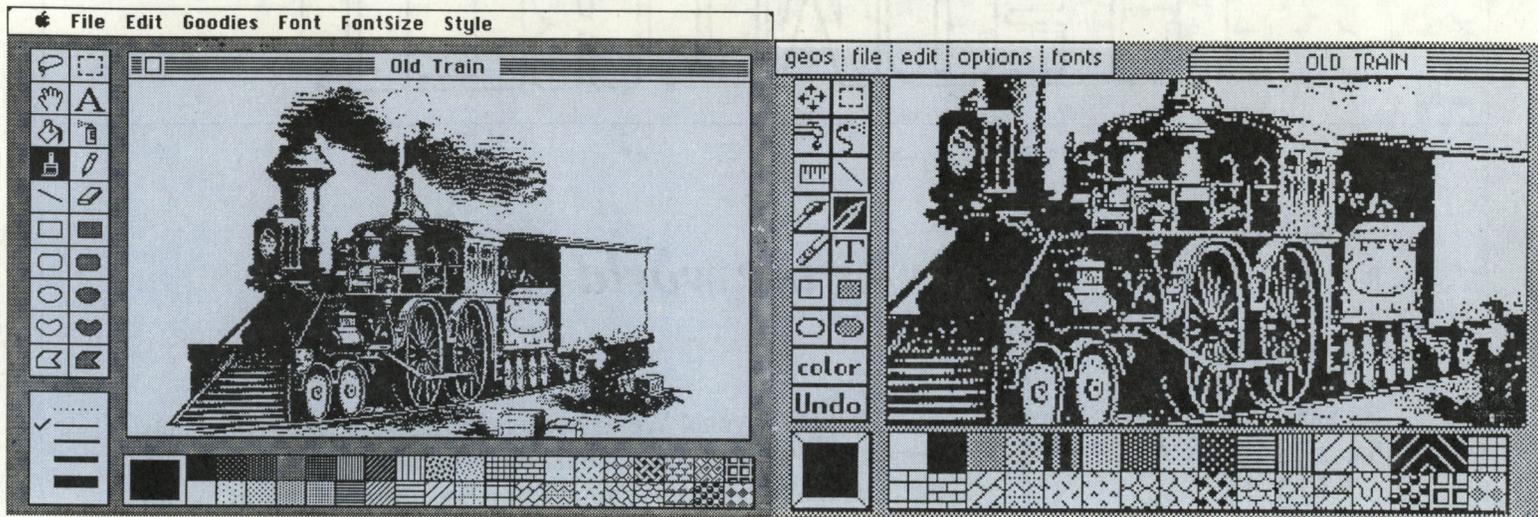
Mystic Jim and Tim Corcoran are going to make a Real Time Clock available to users in kit or assembled form. This clock will operate up to 1 year from a battery through the joystick port, will be expandable, and is very simple(1 i.c.).

Telegraphics is working out details for GEOS users to upload GEOpaint or GEOwrite documents for laser/offset printing. For starters, We will offset print envelopes with your GEOS created Name, address, graphic etc. for a price that can't be beat by your local printer. If anyone is interested please drop us a line on Qlink (GGEOWORLD) or contact Fast laser service .

Until next month, Roger Ledbetter

# MacPaint to GeoPaint Conversions

By Peter and Paul Hughes



This article consists of our feelings about MacPaint and the history of the MacPaint to GeoPaint conversion programs. We hope this article interests you and stimulates you to go forth and find and convert MacPaint to GeoPaint documents for your viewing pleasure as well as finding excellent clip art for signs, newsletters or stationary.

We have always admired and wanted a Macintosh so that we could have the MacPaint drawing program. MacPaint had mouse control, icons, pull-down menus, fine black and white lines best for printing, and the ability to make images that could fill a whole 8 x 10 inch page. We collected Mac magazines to see what new drawings were being made with this program which was the alternative to pencil or pen and ink and paper.

We bought Doodle for the Commodore 64 and did some pictures. Drawing with a joystick was very difficult and we could only make illustrations as big as 1/6 of a page. Then we got Flexidraw which had a light pen and we could draw freehand drawings with smooth curves very easily. By linking 6 screens - 2 horizontal and 3 vertical - we could fill most of the page with an image. But there was about 1 1/4 inches of blank space on the borders of the page that we could not cover.

When **Berkeley Softworks** came out with GEOS and GeoPaint our dream of a MacPaint-like program for the 64 came true. With mouse control, icons, windows, and full-page editing up to 1/4 inch from edge of page, GeoPaint was great and what we always wanted.

Now we could create detailed images like MacPaint with GeoPaint But we still envied the high-quality black and white illustrations many of which were digitized that were created on the Mac. We wished we could somehow display, manipulate or print out those images on our computer. We needed a conversion program. We did not know of any that was available or if it was possible at all.

There came available a program for the Macintosh that would convert a 320 x 200 pixel area of a 576 x 720 MacPaint document to and from a Doodle picture. This program only worked on the Macintosh computer. We wanted to get parts of MacPaint images that we wanted not what other people got for us.

In the April 1987 issue of Computer Shopper there was an article on converting MacPaint images to Amiga IFF Deluxe Paint files. This article said that it was possible to convert MacPaint documents to any computer that had bit-mapped images. The Commodore 64

has bit-mapped graphics.

From the information and program listing in the magazine *Valhalla* - a user on **Quantum Link** - created a program called **Macpiconvert 1.0** which was written in basic that would let one take a 320 x 200 pixel area from a MacPaint file and convert it into a Doodle file on the Commodore 64. MacPaint files were downloaded from a telecommunications service like GENie or Delphi or PeopleLink as a sequential file. The conversion was slow but it worked. A little later he made a Blitzed version called **Maconvert 1.2** that would take 1, 3, or 8 Doodle sized areas out of a MacPaint document that ran much faster. The MacPaint document resolution is 576 x 720 pixels and the GeoPaint file is 640 x 720 pixels. The Mac file would fit into a Geos file with room to spare. A GeoPaint file can be 2 Doodle-sized areas wide and up to 4 and 2/3 Doodle-sized areas high.

It would take a great deal of time to use **PICONVERT** - a program available on Quantum Link - to convert each of the 8 Doodles to a separate GeoPaint document and make photo scraps of each and store them in a photo album. Then take all the scraps and paste them all together on one final GeoPaint document. This would be time consuming and tedious. What we did was cut the work and time in half. By using **Grafix-Link** from **Solutions Unlimited** we could convert 4 Doodles to a GeoPaint document at a time. We used a fake Billboard ID file, renamed the Doodles to the correct names and loaded them into Grafix-Link and saved them as a GeoPaint file. Making photo scraps of the second paint file and pasting them at the bottom of the first paint file we came up with a full paint file. Still this was very hard but worthwhile. Seeing a full MacPaint file in GeoPaint format was very exciting. But we wish we could directly convert a full MacPaint file to a full GeoPaint file.

Then J Hastings came out with his **MacGeoPaint** conversion program. It took 25 minutes to convert a downloaded program file of a MacPaint file to GeoPaint but that's all the time it took for the conversion and there was no more work to do except to compress the file in GeoPaint. Because GeoPaint file compression is

complicated his program always converted the Mac file to a GeoPaint file as a 272 block or 68K program even if the image only covered half of a page. To compress the file load it into GeoPaint draw in the work area, undo and update the file. Move the work area down the left side of the page repeating the same process until you reach the bottom of the page. By doing this the GeoPaint will compress the file to what it should be; considerably less than 68K - anywhere between 10 and 30K depending on detail.

Just recently J Hastings came out with a new **MacGeoPaint 1.1** which worked with program or sequential files, worked with 2 drives, detects if you have enough room on the destination disk and has fast drive head movements. Some of the reading and writing routines have been rewritten in Machine Language. The program will convert a full MacPaint file to a GeoPaint file in not 25 minutes but between 4 - 8 minutes. This is a considerable improvement. The program also makes a shorter file because it skips blank spaces in the file. File compression is still needed and can be done in GeoPaint. This program seems to be the best conversion program by far. Praise goes to J Hastings for making such a nice program.

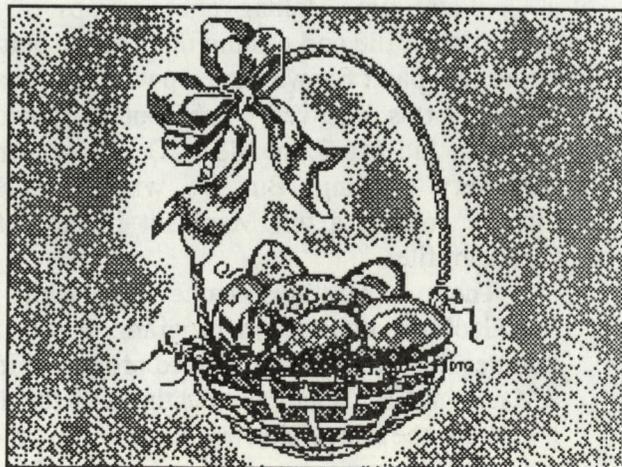
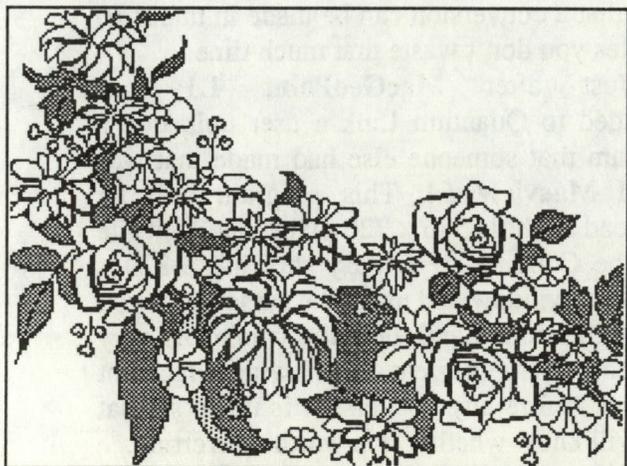
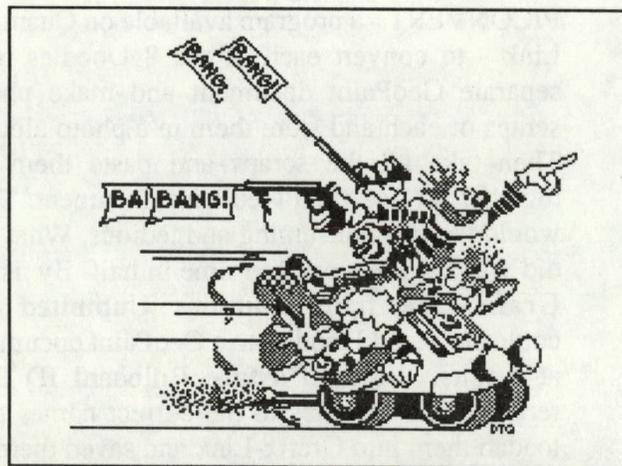
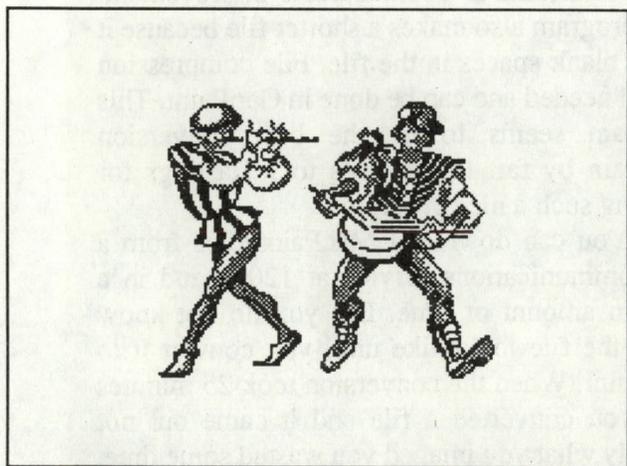
You can download MacPaint files from a telecommunications service at 1200 baud in a certain amount of time. But you do not know what the file looks like until you convert it to geoPaint. When the conversion took 25 minutes and you converted a file and it came out not exactly what you imaged you wasted some time. Now that a conversion can be made in under 10 minutes you don't waste that much time.

Just after **MacGeoPaint 1.1** was uploaded to Quantum Link a user uploaded a program that someone else had made that was called **Macview.c64**. This program will let you load a whole 576 x 720 pixel MacPaint file into the Commodore 64. By showing a 320 x 200 pixel window and using the cursor keys you can scroll around and view the whole file very smoothly. This is great for viewing MacPaint pictures before any conversion is made so that you will know whether it is worth converting.

If you have **Macview.64**, **MacGeoPaint 1.1** and **GEOS** and can download MacPaint files to

your computer you can have the ability to get a large collection of excellent illustrations, digitized images and various clip art. By having these images in GeoPaint format you can manipulate and alter those images to suit your purposes. You can copy out parts of the images and collect them in a photo album. Later you can paste them as photos into your write documents.

If you cannot have a Macintosh computer or could not afford one, making use of its picture files is the next best thing. It can even be better. A Commodore 64 with GEOS and GeoPaint turns your computer into a mini Mac for a lot less money. There is a large collection of public domain cars, planes, animals, celebrities, nudes and other digitized and hand-drawn pictures on some commercial and local bulletin boards. So get the two utilities for viewing and converting MacPaint files and get all the wonderful Mac pictures to your heart's content. Happy MacPaint to GeoPaint converting! We hope you get some great looking Mac pics. : )

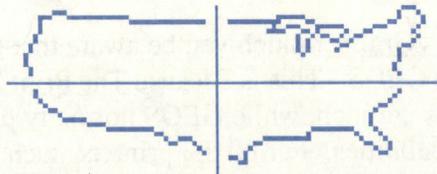


# Double the Size of Print Shop Graphics

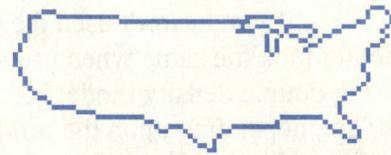
By Terry R. Mills



**Regular size  
Print Shop  
graphic grabbed  
with the  
Graphics Grabber.**



**Graphic enlarged into four  
Print Shop graphics files,  
grabbed with the Graphics  
Grabber and brought into  
geoPaint for editing.**



**Four images edited  
together to form one  
large size graphic in  
GEOS.**

Owners of The Print Shop and Desk Pack 1 enjoy the ability to import Print Shop graphics into the GEOS environment for use in geoPaint and geoWrite. When I first got Desk Pack 1 I was quite excited about this prospect. However, since the graphic images brought into GEOS are rather small, I wondered if there wasn't some way (with enough thought, there's always "some way") to get larger Print Shop graphics. Maybe if I could figure out enough about how GEOS stores graphics I could work something out. After looking through The Official GEOS Programmer's Reference Guide I came to the conclusion I didn't know enough to tackle the problem once the graphic was in GEOS.

So I studied the way Print Shop files are stored and determined that I could double the size of a graphic by breaking it into four new graphics files, one for each quarter of the normal size graphic. Before GEOS, I can think of no reason anyone would want a program that could do this, but such expanded files could be grabbed with the Graphics Grabber and later edited back together in geoPaint.

To use the resulting BASIC program to enlarge a Print Shop graphic, perform the following steps.

1. In BASIC, type in the program at the end of this article and save a copy to disk. (I have also uploaded the program into the GEOS Software Library-User Applications section of QuantumLink under the name "dbl print shop" and it may be downloaded from there.)
2. Save the Print Shop graphic you want expanded on a practice disk. You can save a graphic by entering Print Shop's graphic editor, "getting" the graphic, removing the Print Shop or Graphics Library disk (or whatever disk the original version of the graphic lived on), placing your practice disk in the drive, and saving the graphic to this new disk.
3. Restart the computer and **LOAD** the BASIC program you saved in step 1.
4. Insert the disk with the graphic to be enlarged and then **RUN** the program.
5. The program will prompt you for the name of the Print Shop graphic you want expanded. Type it in and hit the <RETURN> key.
6. As the program runs, it will display numbers from 1 to 52 to let you know that it is working. The program takes approximately 10.5 minutes to create the four new graphics files. (For this reason, you may want to compile the program to speed it up.) The four files created will be named by adding ".ul", ".ur", ".ll", and ".lr" to the original name. These filename extensions are for the upper left, upper right, lower left, and lower right, respectively.
7. Enter GEOS and start the Graphics Grabber program.
8. One at a time pull in the four new graphics files and save them in a photo album. Leave the Graphics Grabber.
9. Start up geoPaint.
10. Enter the Photo Manager desk accessory to put one of the four graphics, now in a photo album, into the photo scrap.
11. Return to geoPaint and paste the photo scrap into an edit region.
12. Repeat steps 10 and 11 until all four quarters of the enlarged graphic are on the screen.
13. Using the move mode, position the graphics so that the original graphic is reformed, only double sized.

14. After all this work, you may want to copy this newly formed graphic into a photo album for future use.

If you haven't used the Graphics Grabber much yet, be aware that Print Shop type graphics do not look the same when printed from GEOS. This is because The Print Shop prints graphics using double density mode, i.e., 120 dots per inch, while GEOS normally prints things out at 60 or 80 dpi, depending upon the printer's capabilities. For 80 dpi printers, such as the Epson FX-80 and compatibles, it takes an inch and a half for GEOS to print an inch wide Print Shop graphic.

A sample graphic, printed in both regular size and after expanding using the program and techniques described here, accompanies this article.

```

1000 rem double print shop graphic size
1010 :
1020 dim ps$(52,11), gr$(11), gl$(11), d(7), md(9)
1030 :
1040 rem read print shop graphic
1050 input "Print Shop graphic": gn$
1060 if gn$="" then end
1065 print chr$(17)
1070 open8,8,8,"0:"+gn$+".p,r"
1080 get#8, dv$, dv$
1090 for i=1 to 52
1100 for j=1 to 11
1110 get#8, ps$(i,j)
1120 next j
1130 next i
1140 close#8
1150 :
1160 rem double size and write new files
1170 open8,8,8,"0:"+gn$+".ul,p,w": rem upper left of graphic
1180 open9,8,9,"0:"+gn$+".ur,p,w": rem upper right of graphic
1190 print#8, chr$(0); chr$(88);
1200 print#9, chr$(0); chr$(88);
1210 for i=1 to 28
1215 print chr$(145); i
1220 for j=1 to 2
1230 for k=1 to 5
1240 if j=2 then 1320
1250 md(9)=asc(ps$(i,k)+chr$(0))
1260 for m=7 to 0 step -1
1270 d(m)=int(md(m+2)/2^m)
1280 md(m+1)=md(m+2)-(int(md(m+2)/2^m)*2^m)
1290 next m
1300 gr$(k)=chr$(d(0)*3)+(d(1)*12)+(d(2)*48)+(d(3)*192)
1310 gl$(k)=chr$(d(4)*3)+(d(5)*12)+(d(6)*48)+(d(7)*192)
1320 print#8,gl$(k);gr$(k);
1330 next k
1350 if j=2 then 1430
1360 md(9)=asc(ps$(i,6)+chr$(0))
1370 for m=7 to 0 step -1
1380 d(m)=int(md(m+2)/2^m)
1390 md(m+1)=md(m+2)-(int(md(m+2)/2^m)*2^m)
1400 next m
1410 gr$(6)=chr$(d(0)*3)+(d(1)*12)+(d(2)*48)+(d(3)*192)
1420 gl$(6)=chr$(d(4)*3)+(d(5)*12)+(d(6)*48)+(d(7)*192)
1430 print#8,gl$(6);
1440 print#9,gr$(6);
1450 for k=7 to 11
1460 if j=2 then 1540
1470 md(9)=asc(ps$(i,k)+chr$(0))
1480 for m=7 to 0 step -1
1490 d(m)=int(md(m+2)/2^m)
1500 md(m+1)=md(m+2)-(int(md(m+2)/2^m)*2^m)
1510 next m
1520 gr$(k)=chr$(d(0)*3)+(d(1)*12)+(d(2)*48)+(d(3)*192)
1530 gl$(k)=chr$(d(4)*3)+(d(5)*12)+(d(6)*48)+(d(7)*192)
1540 print#9,gl$(k);gr$(k);
1550 next k
1560 next j
1570 next i
1580 for i=1 to 5
1590 print#8, chr$(0);

1600 print#9, chr$(0);
1610 next i
1620 close#8
1630 close#9
1640 :
1650 open8,8,8,"0:"+gn$+".ll,p,w": rem lower left of
graphic
1660 open9,8,9,"0:"+gn$+".lr,p,w": rem lower right of
graphic
1670 print#8, chr$(0); chr$(88);
1680 print#9, chr$(0); chr$(88);
1690 for i=27 to 52
1695 print chr$(145); i
1700 for j=1 to 2
1710 for k=1 to 5
1720 if j=2 then 1800
1730 md(9)=asc(ps$(i,k)+chr$(0))
1740 for m=7 to 0 step -1
1750 d(m)=int(md(m+2)/2^m)
1760 md(m+1)=md(m+2)-(int(md(m+2)/2^m)*2^m)
1770 next m
1780
gr$(k)=chr$(d(0)*3)+(d(1)*12)+(d(2)*48)+(d(3)*192)
1790
gl$(k)=chr$(d(4)*3)+(d(5)*12)+(d(6)*48)+(d(7)*192)
1800 print#8,gl$(k);gr$(k);
1810 next k
1820 if j=2 then 1900
1830 md(9)=asc(ps$(i,6)+chr$(0))
1840 for m=7 to 0 step -1
1850 d(m)=int(md(m+2)/2^m)
1860 md(m+1)=md(m+2)-(int(md(m+2)/2^m)*2^m)
1870 next m
1880
gr$(6)=chr$(d(0)*3)+(d(1)*12)+(d(2)*48)+(d(3)*192)
1890
gl$(6)=chr$(d(4)*3)+(d(5)*12)+(d(6)*48)+(d(7)*192)
1900 print#8,gl$(6);
1910 print#9,gr$(6);
1920 for k=7 to 11
1930 if j=2 then 2010
1940 md(9)=asc(ps$(i,k)+chr$(0))
1950 for m=7 to 0 step -1
1960 d(m)=int(md(m+2)/2^m)
1970 md(m+1)=md(m+2)-(int(md(m+2)/2^m)*2^m)
1980 next m
1990
gr$(k)=chr$(d(0)*3)+(d(1)*12)+(d(2)*48)+(d(3)*192)
2000
gl$(k)=chr$(d(4)*3)+(d(5)*12)+(d(6)*48)+(d(7)*192)
2010 print#9,gl$(k);gr$(k);
2020 next k
2030 next j
2040 next i
2050 for i=1 to 5
2060 print#8, chr$(0);
2070 print#9, chr$(0);
2080 next i
2090 close#8
2100 close#9
2110 end

```

## DBL Print Shop.Bas

ANNOUNCING NEW FONTS FOR GEOS !!  
**FOX FONTS ONE**

IBM FONT  
 ID 36F  
**RABID CONCEPTS**

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 ID 369  
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LORRAINE FONT  
 ID 366  
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PLETHORA FONT  
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**PABIA  
 ΕΟΝΕΕΠΤΕ**

BRITANNIA FONT  
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**RABID  
 CONCEPTS**

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PRO-Type FONT  
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# GeoPaint and MacPaint Proportions

By Peter Hughes

GeoPaint and MacPaint have different resolutions and proportions. There are differences between work area sizes and paint document sizes. Each program has a different aspect ratio or dots per inch (dpi) ratio. Converting a MacPaint file to a GeoPaint file will result in some distortion. Also GeoPaint files are printed in a different dpi ratio compared to the screen. Some printers also produce different dpi ratios compared to each other. Let us explore the numbers pertaining to these dissimilarities and learn what to expect.

Be warned that the measurements I will discuss may not be correct. They are approximates. But it should be interesting finding out about the proportions of the two paint documents. See charts at end of this article.

A GeoPaint work area is 263 pixels wide by 143 pixels high, 3.3 x 1.8 inches or 1/12 of a 8 x 10 inch page. The dpi ratio of the screen is 90 x 72. A MacPaint work area is about 415 x 240 pixels, 5.8 x 3.3 inches or about 1/4 of a 8 x 10 inch page. The screen is 72 x 72 dpi.

The size of a GeoPaint document is 640 x 720 pixels. MacPaint's document size is 576 x 720 pixels. That is a difference of 64 pixels on the horizontal axis. GeoPaint has a wider area to draw on.

When you convert a MacPaint file there will be about 1 inch of blank space on the right of the GeoPaint document. A MacPaint file is 72 dpi and a GeoPaint file is 90 dpi. The Mac file is made narrower and distorted. Circles seem tall but they are really made skinny.

When a Mac file is printed it fills an 8 x 10 inch page at 72 x 72 dpi. A GeoPaint file fills an 8 x 10 inch page and prints at 80 x 72 dpi on an Epson compatible or other 80 dpi printers. On a 1525 emulating printer the Geos file is printed at 60 x 72 dpi. The file becomes wider and a couple of inches are missing or go off the right side of the page. If you print a GeoPaint file on an Apple Laserwriter your document will be squished vertically because it prints the document at 80 x 80 dpi not 80 x 72 dpi like an Epson dot matrix printer.

The GeoPaint screen is about 90 x 72 dpi. An image printed on an 80 x 72 dpi printer will

be about a half inch wider. On a 60 dpi printer the image will become even wider. Let's take a circle as an example of a uniform shape. On the screen the circle will be skinny. The 80 dpi printer will make the circle sort of round but still slightly narrow. The Laserwriter will make the circle perfectly round at 80 x 80 dpi. On a 60 dpi printer the circle will look something like a cigar or wide ellipse. The Commodore 64 has narrow pixels which seem taller but they are just skinnier. The Macintosh has square pixels.

So what you draw on the screen will print wider on different printers. Some people get confused and do not like the proportions of Print Shop Side A or 3 block graphics when they are printed. Print Shop graphics that are made to print on Epson compatible printers are meant to be printed at 120 x 72 dpi or double density. The graphics are 88 x 54 pixels. They are very detailed especially on the x axis. With double density more dots are put in one horizontal inch. Print Shop 2 block or Side B graphics are 44 x 54 pixels and are made to be printed at 60 dpi on 1525 emulating printer. A 3 block Print Shop graphic will seem wide on the screen and will get wider if printer consecutively on lower resolution printers. The resolution will go from 120 to 90 to 60 dpi.

When the 128 version of GeoPaint comes out you will see 1/5 of a page instead of 1/14. The work area of GeoPaint in the 80 column mode of the 128 is 640 x 143 pixels or 8 by 2 inches. On the 64 version of Geos the page is 2 1/2 work area across and 5 down. On the 128 version the page is 1 work area across and 5 down. You can fit 1 1/3 MacPaint work areas across its page and 3 work areas down the page. The MacPaint work area covers more of the page than the GeoPaint work area covers the page. With the 128 version of GeoPaint the work area will cover the whole width of the page and but the same height as the 64 version - 1/5 of a page high.

One last thing about proportions of MacPaint files in GeoPaint format is that if you use a printer driver that will print the Mac image wider so that the aspect ratio sort of resembles how the file was supposed to be printed then the

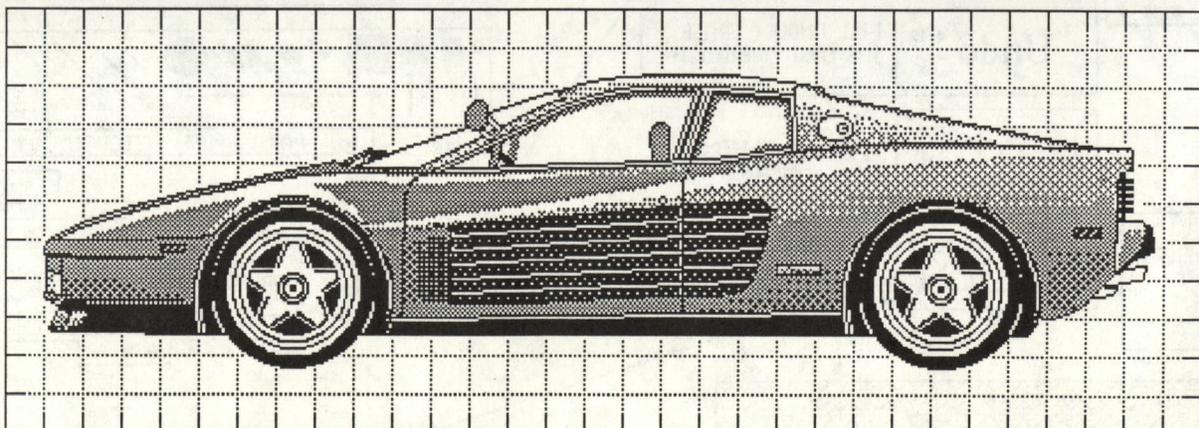
picture will look better. Using a modified printer driver that will print the image at 72 x 72 dpi instead of 80 x 72 the image will look more proportioned.

I hope this article explained and cleared up some confusion that may have come about because of the different aspect ratios of screens, MacPaint and GeoPaint files and printers. If any of this information is incorrect please let me know. I tried to find out why some of the things I have printed out looked different.

## GeoPaint and MacPaint Proportions

	<u>GeoPaint</u>		<u>MacPaint</u>	
	Work Area	Page	Work Area	Page
<b>Pixels</b>	263w x 143h	640 x 720	415w x 240h	576 x 720
<b>Inches</b>	3.3" x 1.8"	8" x 10"	5.8" x 3.3"	8" x 10"
<b>DPI</b> (Dots Per Inch)	90 x 72	80 x 72	72 x 72	72 x 72
<b>Size</b>	1/12 of page	2 1/2 x 5 work areas /page	1/4 of page	1 1/3 x 3 work areas /page

# Ferrari Testarossa



*Hand Drawn by Josh Goldman  
Tufts University Feb. 1987*

Converted by  
Peter T. Hughes  
1987

GEOS		FILE		EDIT		OPTIONS		FONTS		POINTS	
GEOS INFO		CLOSE	4-25	CUT OR COPY	4-18	PIXEL EDIT	** 4-16	BSW		9	
DESK TOP INFO		UPDATE	4-20	PASTE	4-18	NORMAL EDIT		California		10,12,14,18	
SELECT PRINTER	2-24	PREVIEW	4-21			CHANGE BRUSH	4-23 *	Cory		12 & 24	
SELECT INPUT	2-27	RECOVER	4-20			COLOR OFF	** *	Dwinelle		18	
PREFERENCE MANAGER	6-12	RENAME	4-20					Roma		9,12,18,24	
ALARM CLOCK	6-4	PRINT	4-24					University		6,10,12,14,18 & 24	
PHOTO MANAGER	6-8	QUIT	4-25								
TEXT MANAGER	6-15										
CALCULATOR	6-5										
NOTE PAD	6-7										

**MOVES DRAWING WINDOW (PIXEL EDIT)** 4-21

**FILLS WITHIN SOLID CLOSED LINES (PIXEL EDIT)** 4-9

**MEASURES IN INCHES OR PIXELS (PIXEL EDIT)** 4-22

**PAINT BRUSH (PIXEL EDIT)** 4-8

**ERASER (PIXEL EDIT)** 4-15

**UN-FILLED RECTANGLE (PIXEL EDIT)** 4-10

**UNFILLED CIRCLE** 4-10

**USED TO CHANGE THE CARD CANVAS COLOR** 4-6 & 4-7

**Undo** 4-15

**NOTE:** DASHED NUMBERS ARE PAGE NUMBERS IN MANUAL

**EDIT (ALL EXCEPT PIXEL EDIT)** 4-17

**SPRAYS CURRENT PATTERN (PIXEL EDIT)** 4-9

**DRAWS STRAIGHT LINE (POINT-POINT) (PIXEL EDIT)** 4-10

**PENCIL (PIXEL EDIT)** 4-8

**TEXT** 4-12

**FILLED RECTANGLE** 4-10

**FILLED CIRCLE** 4-11

**color** 4-6 & 4-7

**WILL UNDO (ERASE) THE LAST OPERATION**

**NOTE:** MEANS IT WORKS IN PIXEL EDIT MODE

**NOTE:** 2 WAYS

**NOTE:** SHOWS DRAWING WINDOW ON 8-1/2" X 11-1/2"

**MEASURE** 4-10

**NOTE:** 2 WAYS

**NOTE:** INDICATOR

**NOTE:** 2 WAYS

**NOTE:** 4-23

**for PHOTO SCRAP(S)**

**for EDITING**

**for PIXEL EDIT**

**for TEXT**

**for FILL/AIR BRUSH/PAINT BRUSH/PENCIL/CIRCLES/erase**

**for RULER/STRAIGHT LINE and RECTANGLES**

**for PAINT BRUSH SELECTION**

**for CANVAS COLOR CHANGE**

**for PATTERN SELECTION**



**GEOPAIN**

K.F.C 2/17/87

GEOS	
GEOS INFO	
DESK TOP INFO	
SELECT PRINTER	2-24
SELECT I N P U T	2-27
PREFERENCE MANAGER	6-12
ALARM CLOCK	6-4
PHOTO MANAGER	6-8
TEXT MANAGER	6-15
CALCULATOR	6-5
NOTE PAD	6-7

FILE	
CLOSE	5-16
UPDATE	5-12
PREVIEW	5-6
RECOVER	5-12
RENAME	5-16
PRINT	5-15
QUIT	5-16

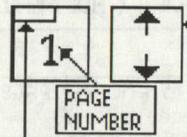
EDIT OPTIONS	
CUT OR $\text{C-X}$	PREVIOUS PAGE 5-7 $\text{C-}$
COPY $\text{C-C}$ 5-9	NEXT PAGE 5-7 $\text{C+}$
PASTE 5-9	GOTO PAGE 5-7 $\text{C-G}$
	HIDE PICTURES 5-13
	PAGE BREAK 5-10 $\text{C-L}$

FONTS		POINTS
B S W		9
California		10,12,14,18
Cory		12 & 24
Dwinelle		18
Roma		9,12,18,24
University		6,10,12,14,18 & 24

USE THIS UNLESS YOU WANT MORE  
GEOWRITE

for PHOTO or TEXT SCRAP(S)  
5-3

STYLE 5-11	
plain text $\text{C-P}$	
bold $\text{C-B}$	
<i>Italics</i> $\text{C-I}$	
outline $\text{C-O}$	
underline $\text{C-U}$	

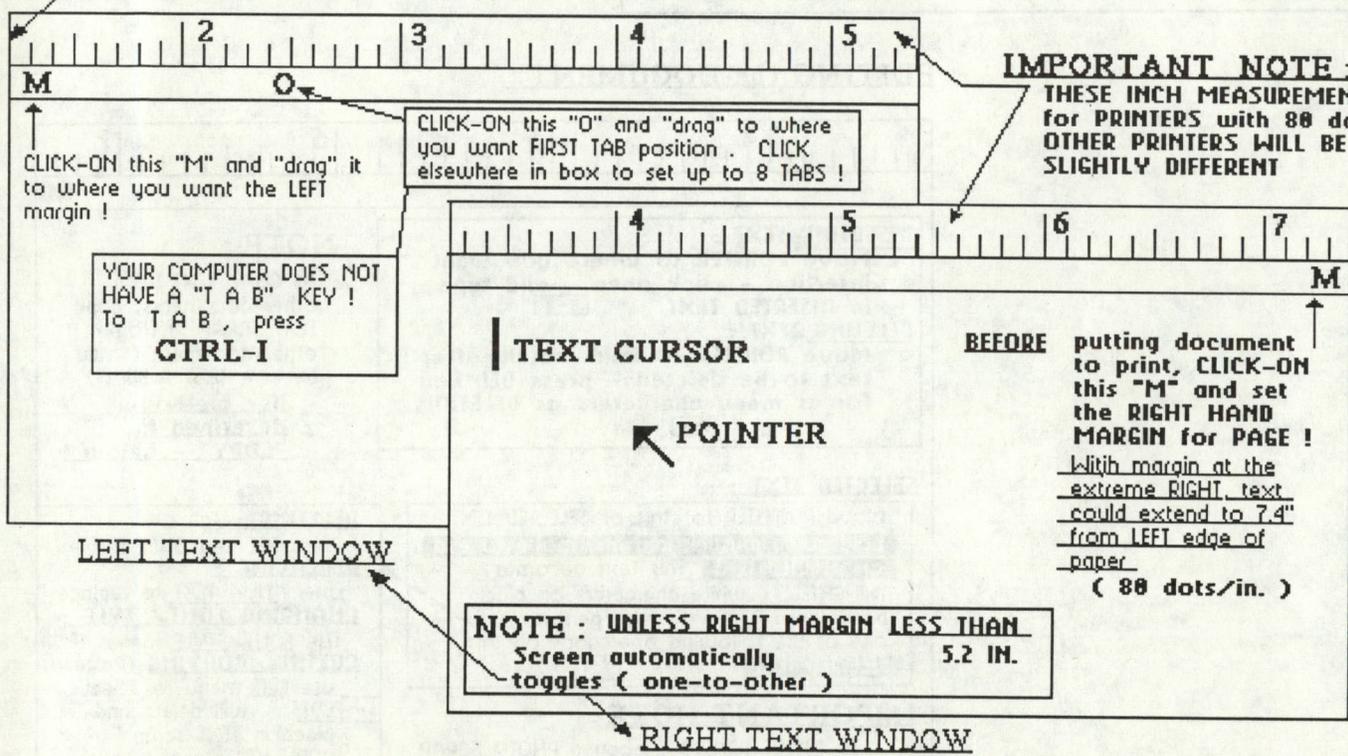


SCROLL BOX :  
CLICK-ON UP ARROW TO MOVE UP ONE LINE .  
CLICK-ON DOWN ARROW TO MOVE DOWN ONE LINE . 5-7

WRITING WINDOW ( SCREEN )  
on 8-1/2" X 11" 5-7  
CLICK-ON to SCAN MOVE

NOTE :  
DASHED NUMBERS ARE PAGE NUMBERS IN MANUAL !

NOTE :  
With LEFT margin at extreme left, text will start 1.2" from paper's left edge.  
( 1-3/8" on 1526 Printer )

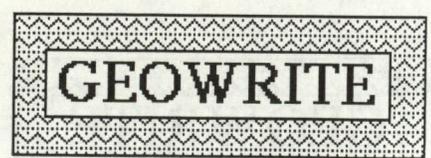


IMPORTANT NOTE :  
THESE INCH MEASUREMENTS ARE for PRINTERS with 80 dots/in. OTHER PRINTERS WILL BE SLIGHTLY DIFFERENT

**EDITING TIPS :**

- 1) For FIRST draft, set right margin at 5 ( eliminates window toggle )
- 2) Start with B S W 9 point FONT and change to other FONTS, etc. in your final editing.
- 3) Use RETURN key for PARAGRAPHS ONLY ! Let the WORD-WRAP work !

- 4) UPDATE ( FILE MENU ) often to safeguard against data loss !
- 5) Insert PAGE BREAK ( OPTIONS MENU ) wherever appropriate .
- 6) To SAVE accidental deletions ( or to UNDO all recent changes ) use RECOVER ( FILE MENU ) .



PAGE ONE of TWO

K.F.C.  
4/8/87

## ENTERING TEXT :

2	3	4	5
M See PAGE ONE for MARGINS & TAB SET 0 M			
<p>Simply start typing in desired text. System will type in B S W 9 point ( you can change to any othe FONT/point or STYLE at any time [ see PAGE ONE ] )</p> <p>To DELETE one or more characters, simply press DEL key one or more times.</p>	<p>Use PAGE BREAK [5-6] ( OPTIONS MENU ) at end of SECTIONS or CHAPTERS ! [ to DELETE Page Break , see page 5-10 ]</p> <p>To PREVIEW page use [5-6] PREVIEW ( FILE MENU )</p>		
<p>WORD-WRAPAROUND will move the text to the next line ( use RETURN KEY for PARAGRAPHS ONLY )</p>			
<p><b>MOVING WRITING WINDOW :</b></p> <p>See PAGE ONE for moving around on current page ( SCROLL BOX and PAGE NUMBER BOX )</p>			
<p>To move to ANOTHER PAGE ( one already entered) use OPTIONS MENU for :</p> <p><b>PREVIOUS PAGE</b> [5-7]  <b>NEXT PAGE</b>  <b>GOTO PAGE</b> (enter pg. no.)</p>			

## EDITING the DOCUMENT :

4	5	6	7
M			
<p><b>INSERTING TEXT :</b>          Move POINTER to where you want insertion - click once - and type in INSERTED TEXT. [5-8]</p> <p><b>DELETING TEXT :</b>          Move POINTER to immediately after text to be deleted - press DEL key - for as many characters as DELETION . [5-8]</p>		<p><b>NOTE :</b></p> <p>To COPY TEXT from other documents, copy TEXT SCRAP(S) from other document ( may be in a TEXT ALBUM )</p> <p><b>Use method described in "COPY" - below !</b></p>	
<p><b>SELECTED TEXT :</b></p> <p>Move POINTER to start of SELECTED TEXT , hold down joystick key and move to end of SELECTED TEXT. This text becomes "HIGHLIGHTED" ( white characters on black background ) . You may perform any one of the following operations on this SELECTED TEXT [5-8]</p>		<p><b>DELETING :</b> 5-9          Press DEL key ONCE !</p> <p><b>REPLACING :</b> 5-9          Enter NEW TEXT to replace !</p> <p><b>CHANGING FONT/STYLE :</b>          use FONT/STYLE menus ! [5-11]</p> <p><b>CUTTING/COPYING</b> (Paste)          use EDIT menu to select .</p> <p>[5-9] CUT will delete and place in TEXT scrap !          COPY will place in TEXT SCRAP ! [5-9]</p> <p>Then select where with POINTER and PASTE !</p>	
<p><b>IMPORTANT NOTE</b></p> <p>To INSERT GRAPHICS copy a PHOTO SCRAP from any PHOTO ALBUM - then "POINT" where and PASTE PHOTO ( sub-menu under PASTE in EDIT MENU ) ! [5-13]</p> <p>Graphics will be <u>CENTERED</u> on page !</p>			



## INSIDE GEOS      MASTER BLASTER

Well here we are again! Now that we know how to manipulate files on the disk and convert them to Geos format it's time to discuss actual programming with Geos. This time we're going to discuss events and menus. By the way, a quick note about assemblers: if it is at all possible, get yourself a good commercial assembler. Most public domains assemblers, while good, may make coding a little more difficult. I use the Abacus assembler and it works great.

If you have only programmed on the C64 you'll will have to learn a new concept, that of the EVENT. Most regular programs run from start to finish with calls to subroutines and maybe a few jumps here and there. If the program calls a kernal routine it will do it's thing and then return to your program which is basically in control at all times. Geos is different. Most of the time a routine in Geos called the Main Loop looks for various EVENTS to occur. Events come in two flavors: user inputs and timed events. User inputs are key presses, joystick/mouse movements and button presses/releases. Timed events are defined by the application; they are subroutines that occur at specific intervals.

Most Geos programs are set up in the following three sections:

- 1) **INITIALIZATION:** Define any timed events, create menus and icons, set up the screen, etc.
- 2) **SUBROUTINES:** The routines that are executed when an event occurs. These may change the events the Main Loop looks for.
- 3) **TABLES:** Icon and menu tables, graphic definitions, text strings, jump tables, and application specific tables.

The intialization routine tells the main loop what routine to execute when a particular event occurs (among other things usually) and then simply does a RTS. Now the Main Loop takes over. It will loop until one of the events you told it to look for occurs, then it jumps to the appropriate subroutine. The subroutine will do it's thing and RTS back to the Main Loop. While the subroutine is running it can do whatever it wants to including defining new events and removing existing ones. The Main Loop will also check to see if there are any timed events and whether it is time to execute any of them.

BSW's Convert program has a very simple init routine. It simply defines a two option menu and returns (ok, ok, it clears the screen too, don't get picky)! On the other hand the Desktop (which is after all nothing more then an application) has a very elaborate initialization which includes defining menus and icons, drawing graphics, starting up timed events, etc. But in both cases the effect is the same: tell the Main Loop what to look for and scram.

Now that we have a basic understanding of events let's take a look at how to set up menus. First you must decide what kind of menus you want to display, either vertical or horizontal. Both types of menus can be **CONSTRAINED**. This means that the mouse will not be allowed to move off of the sides or bottom of the menu. Next you have to decide what will happen when a user selects an option. Either a sub-menu can be opened (in V1.2 up to four menus can be nested) or a routine can be executed or a dynamic sub-menu can be opened. In this case a routine is called just before the sub-menu is drawn. This routine is usually used to modify the text of the sub-menu options.

There are six menu routines built into Geos. For the most part you will only need to use one or two of them.

DoMenu (\$C151) --

Initializes a menu structure. To use load R0 with the address of the menu table (described below) and load the accumulator with the option number to place the cursor on when the menu is first drawn (the first item is #0). Contrary to what the BSW reference guide says there is no inline form of this routine (that I can find anyway).

Whenever a routine is executed because the user selected a menu option the routine must tell Geos what to do with the menus displayed --

ReDoMenu (\$C193) --

Re-enables current menu. Nothing needs to be passed to the routine and nothing is returned.

DoPreviousMenu (\$C190) --

This routine will roll up the latest sub-menu and re-enable the one before it. Again, you need pass nothing to it. One point of caution: it is up to you to ensure that the mouse is repositioned over the previous menu. If you don't and the mouse is outside the menu the Main Loop will think the user moved off the menu and roll up all the menus.

GotoFirstMenu (\$C1BD) --

This routine will roll up all currently extended sub-menus and revert back to the main menu. This is the routine to call to re-activate the main menu if you don't have any sub-menus.

There are two other menu routines which are not mentioned in BSW's RG:

RecoverMenu (\$C154) --

This routine will erase the current sub-menu. It will NOT re-enable the previous menu, all it does is erase the current one. It will not decrement menuNumber (explained below) either. This routine vectors through recoverVector which normally will restore the

background screen to the foreground effectively erasing the menu (menus are ONLY drawn on the foreground screen). If recoverVector is zero it will set a blank pattern and call Rectangle (\$C124).

RecoverAllMenus (\$C157) --

This routine repeatedly calls RecoverMenu until all sub-menus are erased. Then menuNumber is reset to zero.

MenuNumber (\$84B7) will hold the number of sub-menus that are currently extended. This location can come in handy if you need to see if a sub-menu is extended. For instance when I wrote GeoIcon I ran into a nasty bug: when a sub-menu was extended it overlapped the drawing window. If the user moved the mouse down the menu the mouse would change back to a box! So I used this location to suppress changing the box if the location was non-zero.

Note that the text of the menus is drawn with the normal character drawing routines. Therefore you must ensure that windowTop, windowBottom, leftMargin, and rightMargin (\$33-38) are set to allow drawing where the menu is to be displayed. If not you'll get an empty menu (it will still work just no text). If you don't modify these locations don't worry about them, they default to the entire screen.

DoMenu requires the address of a definition table for the menu. It's structure looks like this:

- .BYTE top of menu (in scanlines)
- .BYTE bottom of menu (ditto)
- .WORD left side (in pixels from left of screen)
- .WORD right side (ditto)
- .BYTE type of menu
  - \$00 = horizontal
  - \$80 = vertical
  - OR with \$40 to constrain.
  - OR with number of menu entries

Next comes the entries for each item in the menu. Each entry contains three items:

.WORD pointer to zero terminated string to print in menu

.BYTE flag telling the main loop what to do when item is selected.

\$80 = Open a sub-menu.

\$40 = Dynamic sub-menu.

\$00 = Call subroutine.

.WORD address of sub-menu entry, address of dynamic routine or address of subroutine as applicable. A dynamic sub-menu routine must return with the address of the sub-menu entry in R0.

Sub-menu tables are set up the same way. Positioning the menus on the screen can take a bit of experimentation. For a horizontal menu the top and left side are defined in the table. The bottom should be set to TOP+14. To find the right side just put in a large value (255-319) and shorten it up a little at a time until it looks right. For a vertical menu set the right side the same way. To find the proper bottom value use this formula:

$$\text{TOP} + (\text{number of items} * 14) + 1$$

If you're using a good assembler you can put the formula right into the source code and let it calculate the value for you. Don't be too concerned about the right side of the menus, any non-trivial program will need to be re-compiled many times, just remember to tweak the menus a little each time. With practice you can get it right after one or two tries.

The text strings for the menu options can contain any valid characters including style changes. I prefer to print all menu options **bold**. It makes them a bit easier to see. Don't try imbedding any RETURNS (\$0D) in the text - you'll just make a mess (although you could set the bottom of the menu down to include the second line it won't

look right when the user clicks on it because only 16 lines are flashed). Remember the menu table contains a **pointer** to the text string not the string itself.

Dynamic sub-menus are useful when you need to modify the sub-menu before it is displayed. The menu tables are fixed in memory so you can modify the **text** whenever you want to. The classic example is the font and style sub-menus in GeoWrite. In this case the menus are defined with leading spaces. The dynamic routine checks which font or style is active and pokes a '\*' where the first space is. Remember that the address of the sub-menu table must be loaded into R0 (\$02-03) before the routine exits so the menu handler will know where it is (the main menu table only contains the address of the dynamic routine).

Constrained menus are used when you don't want the user to accidentally move off the menu. For instance if the menu is long and the user wants to select the last option the mouse will really be cooking by the time it gets down that far. With an unconstrained menu the user stands a good chance of zipping right off the bottom and having to go back up and re-select the menu. If you use a constrained menu this won't happen, the mouse will stop when it gets to the bottom of the menu (or side if it's a horizontal menu). The only way to get off the menu is from the top (vertical) or left side (horizontal).

By the way I mention that if you roll up a sub-menu you will need to position the mouse on the previous one so that menu won't roll up also. To change the mouse's position modify the following locations:

\$3A-3B mouseXPos .WORD (0 to 319)

\$3C mouseYPos .BYTE (0 to 199)

That's about all time space we have for now. I don't have the room for any examples but after I cover a few more subjects I'll be going through an entire application. See you next time. MB



Berkeley Softworks  
2150 Shattuck Avenue  
Berkeley, California 94704

For this month's article, I thought I would show all of you how I make use of the products we sell. Aside from the obvious fact that I am using **geoWrite 2.0** and **geoLaser** to do this article, I use our other products every day in the office. For example, coordinating the Beta Testing Program involves keeping track of all the beta testers and also knowing who tested what products. With **geoFile** I have just the program I need for handling this project.

The first thing I did with **geoFile** was design my form. I realized I needed all of the names, address, and phone numbers, for each beta tester in an arrangement that would allow me to see all of the pieces of information on the screen at one time. I went into the "form design" mode of **geoFile** and opened up "fields" for this data. After doing this I went to the "data entry" mode of **geoFile** and input everyone's information. When I finished I had all of the contact information for each beta tester sourced into the program.

Now that I had a working format, I decided to customize it to my needs. I needed something that would allow me to sort people by not only whether or not they had beta tested a product, but also by how many responses I received from each individual for each program. What I finally decided was to list each product separately in a field, and then have the data stored in that field be a "yes" or "no" answer. So if someone tested **Deskpack 1**, I would put a "yes" after the **Deskpack 1** listing, and "no" for someone who did not test this product. This way I could have all of the beta testers entered into one **geoFile** data file, and still sort through them by *product* if I ran a search based on a "yes" answer for each product tested. For example, if I ran a sort on the **Deskpack** field, **geoFile** would give me all of the people who had "yes" in their data field, and all of the beta testers who tested that product would appear on the screen.

I also wanted to be able to sort the beta testers by how many responses each person had sent in for the different products. I finally concluded that the best way to do this was to have another field next to the "product" field which would give me a list of how many responses each person sent to me. To set this up was easy. I went to the "form design" mode of **geoFile** and opened a field called "Responses." Then using the feature that allows me to duplicate a field, I made a "Reponses" field for each product. Now I could sort the beta testers not only by each product, but also by how many responses each one gave for each product. For example, **geoFile** could sort everyone who had sent in over 10 responses for **GEOS 128**.

Of course, now that all of these people are entered into **geoFile**, I can send them all form letters by creating text scraps and using **geoMerge**. I can send everyone a letter telling them how to test a product, when to send the software they had been testing back to us, or even a note thanking them for their contribution to Berkeley Softworks.

The purpose of this article has been to show you an example of the ways that we in the office actually use the products we make, and hopefully give you some ideas on how you could use these products for yourself. One of the neat things about **geoFile** is that it took me hardly any time at all to set up my desired format, and now there are so many things for which I can use the product. Without a doubt, I think **geoFile** is going to revolutionize data bases for the Commodore market. I think you will agree that **geoFile** is the easiest to use data base ever made for your Commodore.

Take care, and see you on the boards!

Rob Siegel (A.K.A. GEOS ROB)

First Name :	Last Name :	
Address :		
City :	State :	
Zip :		
Work Phone :	Deskpack 1 :	Responses :
Home Phone :	GEOS 128 :	Responses :
	geoFile :	Responses :
	geoCalc :	Responses :

First Name : Robert	Last Name : Siegel	
Address : 2158 Shattuck Ave.		
City : Berkeley	State : CA	
Zip : 94784		
Work Phone : (415) 644-8883	Deskpack 1 : Yes	Responses : 4
Home Phone : Same as other	GEOS 128 : Yes	Responses : 13
	geoFile : Yes	Responses : 16
	geoCalc : No	Responses : 0

Robert	Siegel	
2158 Shattuck Ave.		
Berkeley	CA	
94784		
Work Phone : (415) 644-8883	Deskpack 1 : Yes	Responses : 4
Home Phone : Same as other	GEOS 128 : Yes	Responses : 13
	geoFile : Yes	Responses : 16
	geoCalc : No	Responses : 0

**Mystic Jim  
2388 Grape  
Denver CO  
80207**



Our efforts over the past month have been directed toward our bulletin board service. It now runs very reliably, and the U/Download section is growing daily: there are a number of new programs there that are not yet on our disks. The BBS, called 'Mystic Jim's Shareware BBS', uses over 1.25 meg. The next step is to install a hard disk drive. We're in the market for a 20+ megabyte drive, and if anyone knows where a good one can be obtained at a (very) reasonable price, please let us know.

Many of you have volunteered to run satellite boards for us, and now that the BBS is running well, we're assembling a package of disks of programs and files for that purpose. The first step will be to send a questionnaire, and requirements for running a board, to everyone who's volunteered, so we can decide who'll run the BBSs.

Our disk#4, the programmer's disk, will be available on June 1, but without the GEOS monitor and disk editor, which are proving to be more time-consuming than we'd thought. We're putting in a good public domain monitor and disk editor, which will be replaced with the GEOS versions as they're finished. The GEOS disk editor is nearly finished, but we keep adding to it's features: it'll really be worth waiting for. The disk has dozens of utilities, converters, etc, and has Alex Boyce's tech manual on the back.

Randy Winchester has sent us a diskful of his great stuff, which we'll offer together on a disk. There are some great graphics and improved versions of his text grabber, and much more. Randy also has other stuff available from him, and you can read about that in our New Products board on the BBS.

Our new Serial Number Editor V2 will now match up all of your add-on programs with your KERNAL.

The Graphics disk is almost ready. The programs on this disk will allow you to convert almost any image to any other, and back. If you use an Okimate printer, you'll be able to print all sixteen GEOS colors, not just eight. The back will be filled with graphics images: if you have drawn something neat, we'd sure like to include it on this disk, so send it on over!

Tim Corcoran's real time clock for GEOS will be available in June, as plans, a parts kit, and a finished device. You can read about progress on the BBS. Tim's designed this device to be inexpensive, and easy to build and use. We really think you'll like it.

We now pay cash for new programs: if you have something new, and could use a bit of cash, consider letting us see what you've got!

Our shareware disk#2 is available for the asking, as shareware. Membership in Mystic Jim's GEOS Shareware comes with a contribution of \$40, or more. We're looking forward to hearing from you.  
Best.



# Mystic Jim's Shareware Update

JUNE 1987 Issue 3, Volume 1, No. 3

DISK # 1: New Program Updates  
 DISK # 2: Straps, inputs, misc.  
 Bootstrap: bootdisk maker.  
 Bootstrap1.3: for v1.3  
 Strap 1.3: improved version.  
 SM Editor: edit serial number  
 \*GEOSTrip: strip CP from add-ons.  
**INPUT DRIVERS**

- Sketchpad 1
- Lightpen: for pens with clickers X
- Penjoy: litepen/joystick hybrid 7
- Anypen: switchless litepen. 7
- Inkwell: for Flexidraw litepens
- KoalaPad: BSW's awful driver.
- KoalaPad2: for port#2. 7
- KoalaPadIII: Cosmac's great one. 3
- KoalaPadII2: for port#2. 3/7
- KoalaPadIII: Cosmac's best. 3
- \* KoalaPadIII2: for port#2. 3/7
- KoalaPad 1: new proportional. 8
- Mouse1351: proportional.
- Mouse2: for port#2. 7
- Comm Mouse: for 1350 mouse
- \*PowerPad: still not ready
- \*Keyboard:
- ACCESSORIES**
- GEODump: print any screen. 3
- Change Input: from application. 3
- Change Printer: 3
- GEOFormat1.3: fast 1.3 formatter. 3
- Note Printer: print notepad. 3
- Auto Preference: at boot. 3
- Watchset: easy time/dateset 2
- GEOIcon: for programmers. 2
- Quick Dateset: 4
- Icon Maker/Sprite Magic 7
- Icon Edit 2.1: very good prg. 11
- O'Clock: permanent time display 7
- \*O'Clock 1.3:
- Quick Dateset: from desktop. 4
- Convert1.4: for ALL GEOS files. 9
- GEOTab: add tabs to GEOWrite. 1
- Grabber Upgrade: these patches
- GEOdex Upgrade actually work.
- Merge Upgrade: now. 1
- Runner: watch out!
- \*Textvert: with modules for most word-processors.

- Programmers: (semi-alphabetic)**
- 1 Alex Boyce 7 Mystic Jim
  - 2 Bill Coleman 8 W. Bruce Moore
  - 3 Art Dahm 9 Ben Taylor
  - 4 Jeff Fox 10 Tony Reynolds
  - 5 Don Mosedale 11 Terry Mullett
  - 6 R. Winchester 12 Mitch Romm

DISK#2, cont.  
**GRAPHICS.**  
 Imagecon: hi-res/multi-color image converter. 7  
 \*Revcon: GEOS to hi-res convert.  
 Piconvert: Doodle to GEOS. PD  
 PS-GEOS: convert all Print Shop pics to GEOS 7  
 ComputerEyes: run 'eyes from GEOPaint, even BETTER! PD  
 GEOPaint help files:  
 GreyGrid, ColorGrid, CrossGrid  
 MetricGrid, Grid Cards, Okicolor7

DISK R Randy's Roundup.  
 TextGrabs, Data Converters  
 Graphics, and more. All by Randy Winchester! 6

DISK # 3: Fonts, keyboards.  
 Fonts are designed using Cosmac's GEOFont, by Cosmac, P. Hughes, MJ or transferred from other sources  
 GEOFont is available from Cosmac at: Myth Conceptions, 111 New Canaan Ave, Norwalk CT 06850

- FONTS:**
- Balloon: 24pt. Andrea's Calligraphy 16
  - Banner: 36pt.
  - Dvorak: 10pt.
  - Esperanto: 6,10,12,14,18,24pt.
  - Breek: 12pt.
  - IBM: 10pt.
  - Fill 48: 48pt.
  - MegaBanner: 280pt. horizontal.
  - Mystic: 18pt.
  - Oxford: 12,24pt.
  - Paintbrush: 36pt.
  - Script: 24pt.
  - Writing: 14,18pt.
  - Zapf: 14pt.
  - \* Sixteen additional fonts will be added at two per week until the disk is filled.
  - Keyboards.**
  - Dvorak2: keyboard patch.
  - C128: numeric keypad patch.
  - NEW PROGRAMS: DISK#1, BBS**

- GEOTime: Time/date displayed on boot. (uses Tim's Timer) 13
- Tim's Timer: Battery backup timekeeper. Available as plans on disk or BBS, or as kit or finished device at cost (<\$20 for kit) 13
- SN Edit v2: Read, change & match serial numbers on all GEOS prgs. 7

DISK # 4: Programming Utilities:  
 Convert.ml: ML-GEOS convert. 5  
 Launch: load & run asm code 12  
 GEOSTart: convert ML to GEOS 1  
 DISPMEM: view memory 14  
 GEOThreader: single-step disassembler. 7  
 GEOLinker: link prg/header 2  
 GeoSplitter: split prg/header 2  
 GEOIcon: programmers icons 2  
 Spelunker: view opcodes 10  
 \* GEODisker: disk editor.  
 \* GEOMon: ML monitor.  
 GEOCross: Tech cross-ref  
 Programmer's Reference Guide  
 By Alex Boyce.  
 DISK # 5: Bulletin Board Utilities  
 Terminal programs for BBS use:  
 MasterBlasterm, Multiterm  
 Fasterm, CG Term.  
 Library, conversion utilities:  
 SQ v2, USQ v2, Lynx 9, Arcaid  
 Word Writer Modverter.  
 \* GEO-Autoterm

DISK #6: Printer Drivers:  
 All GEOS printer drivers, for GEOS User Group libraries.  
 Double/Quad strike drivers for most 80dpi printers 14  
 \*\* DISK # 7: GRAPHICS  
 Graphics conversion pak;  
 KoalaPad, Flexidraw, Doodle, Supersketch, Blazing Paddles, ComputerEyes, Print Shop, Newsroom, Print Master, Font Master, GEOPaint.  
 each to the other and back!  
 \*GEOmetry: new GEOPaint tools, geometric shapes, angles, zoom, color swap, etc.  
 Okicolor: Prints all sixteen GEOPaint colors with Okimate20



**Mystic Jim Enchants The Eagle**

- 13. Tim Corcoran
- 14. Terry Mills
- 15. Lynn Kerby
- \* Unfinished program
- \*\* Unreleased disk

NEW! For the GEOS operating system!

# GEOFONT & PATTERN FONT EDITOR EDITOR

GeoFont is a GEOS application for creating new fonts or altering existing fonts. Whole point sizes as well as individual characters can be added, removed, or changed to create customized fonts for use in GEOS applications.

The Pattern Editor is a desk accessory that gives you the ability to alter the 32 GEOS system patterns. Since the Pattern Editor is a desk accessory, it can be used from within geoPaint or any other application, giving an almost limitless variety of fill patterns.

Both programs are available on one disk, with instructions, for **\$19.95**

COD orders please add \$3.00 & CT residents please add 7.5% sales tax.

Myth Conceptions  
111 New Canaan Ave.  
Norwalk, CT 06850  
(203) 849-1011

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### Correction to May issue

In the source code to Terry Mills' "Modified PrintBuffer" routine on page 4 of the May issue, Terry later noted and informed GEOWORLD of some typos in the copy he submitted. The following sections should have read:

```
lda *setif1          ;set r3 to point to control codes
sta $08             ; that set 1/216 inch line feed
lda *setif1
sta $09
```

```
lda *setif2          ;set r3 to point to control codes
sta $08             ; that set 23/216 inch line feed
lda *setif2
sta $09
```

In both the above cases, the \$08 and \$09 got reversed. Then, the last line should have read:

```
setif2 .byte $17,$33,$1B      23,51,27
```

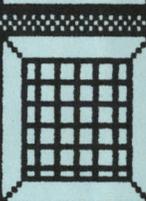
geos : file : edit : options : fonts

GGEOWORLD

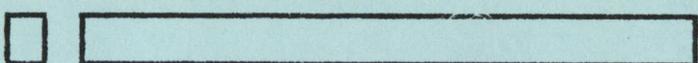


color

Undo



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