geoWorld

The definitive magazine about GEOS

Issue #23

Q-Link GEOS News
4-Color Separation
Graphics Interchange
GEOS Label Makers
Geoprogramming 128
THE RUNNER Comic

Eagle head entitled
"ENDANGERED"
by Amy Laughlin.
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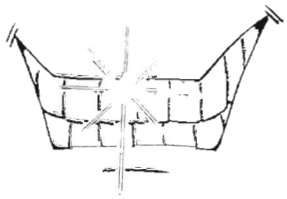

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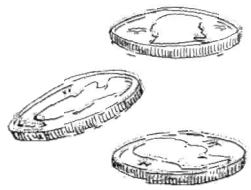

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GEOWORLD

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Inside this issue

3 **GEOS News from Q-Link**
Peter T. Hughes

5 **Inter-Computer Graphics Interchange**
Paul A. Hughes

10 **Color Separation with geoPublish**
Roger Eller

14 **GEOS GEMS**
Peter T. Hughes

16 **Making Tractor Feed Labels with geoPublish**
Dick Estel

17 **Programmers worth their weight in RAM Chips!**
Dale Beach

18 **Programming with GEOS 128**
Jim Collette

21 **Optical Scanning for GEOS**
Sean Huxter

25 **The Runner**
Sean Huxter

About the cover...

The eagle head was hand done using geoPaint by Amy Laughlin. It was slightly reduced in geoPublish to increase resolution and spot color was added by Roger Eller (see Rogers article in this issue on his technique for color separation).

The final geoPublish cover page and its colors were saved to disk using ps patch and geoPublaser and then sent by modem to a typesetting company for output at 1270 dpi on a linotronic L-100 to film negative for offset printing. The reference color chart on the back cover was sent by modem with geoPublaser to a Mac running Red Ryder and the postscript saved as a text file (Antigrav method) then output on a linotronic at 1270 dpi to film.

geoWorld

The definitive magazine about GEOS

Subscription and Disk upgrade offer!

Due to popular demand geoWorld will offer its public domain / shareware disk along with Your subscription and include first class mailing! Please note that the price of the disk has been reduced to encourage users to participate in making shareware contributions to the program authors. Disk 1-5 are still available at the new price of $5.00 but effective with this issue the new disk will be offered as geoWorld (issue number) disk to complement the magazine and avoid any future confusion. As an added option, readers can request to have their subscription upgraded to first class mailing for $10.00 for 12 issues. We hope that this will offer better service and enjoyment for our readers.

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GEOS News From Q-Link

The latest news from the GEOS ARENA
By Peter T. Hughes

This is a new column about GEOS News from Q-Link (QuantumLink) - a telecommunications network for Commodore computers. The latest news from the Q-Link GEOS ARENA will be reported. The GEOS ARENA consists of BSW news of updates and new products, message boards where users ask questions and a software library where users can download programs, new input and printer drivers, fonts and geoPaint and geoWrite files.

GEOS Help Online

The message boards are manned by geoRepresentatives who answer questions in certain areas. GEOS STEVE is from BSW and is the Customer Service representive. GeoLib PH (Peter Hughes) is the GEOS ARENA software librarian. GeoRep Ken (Ken Slaughter) is in charge of the 64 message board. GeoRep MK (Marshall Kragen) answers the 128 messages. GeoRep Tim (Tim Bereman) answers the geoFile messages and GeoRep RP (Randy Padawer) answers the geoChart messages. GeoRep GHW (George H. Wells) is the printer drivers expert. GEOREP JIM (Jim Collette) is the geoProgrammer expert.

geoRam Fix

The geoRam is a 512K Ram Expansion Unit for the C-64 and C-128 that speeds up data transfer in GEOS. The geoRam cost $124.95 and was first shipped in late December 1989. Some of the new geoRam owners out there are having trouble with the C-64 locking up on the BASIC screen. The symptom is that the blue screen comes up with the BASIC message, then the cursor never appears, or the cursor stays on solid white and you are unable to type anything. About 2 to 5 percent of the C64s in use exhibit this symptom, and the solution is simply to cut resistor R2 out of the circuit. This is very easy to do without even opening the plastic housing.

If you are mechanically inclined and want to get your system up and running with a minimum of fuss, directions are provided below for the fix. If on the other hand, you're all thumbs when it comes to mechanical things, send your geoRam Unit to BSW and they will clip out R2, test the unit, then return it to you free of charge.

SHIP TO:
Berkeley Softworks
2150 Shattuck Ave.
Berkeley CA 94704
ATTN: R2 FIX

Directions for fix:
READ ALL STEPS BEFORE BEGINNING!

1) Turn power off, and unplug GEORAM Unit.

2) Look at bottom side (label side down) of geoRam unit with the green Printed Circuit Board (PCB) facing toward you. There are two components at the front right side of the PCB - these are marked at the right side R1, and R2.

3) Before touching the PCB area, ground yourself to prevent static electrical discharge from potentially damaging the geoRam unit. This can be done by touching something that is connected to an earth ground - exposed metal plumbing fixtures - faucets are good grounds. Once you have grounded yourself, do not walk more than a couple of steps on carpet before performing the next step.

4) Cut the leads from R2 as close to the PCB as possible without damaging the PCB. The ideal tool for this are miniature flush cut diagonal pliers, but any type of wire cutter that can reach to cut the leads will work. Just make sure that you cut the leads as close to the PCB as possbile. Discard R2.

5) Plug in the geoRam unit, lable side up into the cartridge port of the computer, and turn the power on. See the BASIC cursor flash and you are in business.

Those taking on the task of removing the R2 themselves are completely responsible for any damage done to the geoRam.

Fonts

Starman35 has uploaded over 30 quality fonts. These are the best public domain or shareware GEOS fonts. The fonts are of many different styles. Some fonts like headerette have background graphics of mountains, city and sea to spice up your letters.

Clip Art

Metrix1 has uploaded a geoPaint page of clip art he drew using geoPublish and geoPaint with the help of Paint Drivers and large photo scrap makers. The file is called **"QUICK CLIPS 1"** and contains these images: 2 different phones, an eye, a pointing hand, an 8-ball, an envelope, a mouse, a 3.5" disk, a computer, a pencil, a bottle of glue, a compact disc (CD), a thumb-tack, and a pen. He asks $5.00 shareware so he can continue creating these high-quality graphics. Metrix1 is Bryce L. Tomlinson, editor of geoJournal the newsletter of the geoMETRIX GEOS user group.

EAGLE 128 posted a message about a new company offering clip art called **Flight Line Graphics**. Their address is: Flight Line Graphics, P.O. Box 5067, Lake Charles, LA 70606.

Some of the files they offer include: Computer Equipment, Desk Top Supplies, Drawing Tools, Fishing Tackle, Jewelry, Religion, Skeleton Parts, Space Flight, Symbols, Body Parts, and Armor Pieces

If they don't have what you want, they will customize the files you want. They also make the disk in the following formats: 1541, 1571, 1581.

Their catalog is $2 and is credited to your first order.

Updated Programs

Paint-Scrap v2.1 by Dennis Seitz (DEN S) has been updated. It now displays a preview page where you draw a dotted box to copy that area as a photo scrap. It contains these features: create any size scrap up to 64K, allow keyboard control of the pointer, include keyboard shortcuts, allows double-clicking to select the entire page for copying, fixes the bug in v2.0 that caused a disk validate to erase the scrap and now the default colors will be black on white instead of red on black (otherwise color is still not yet supported).

Color support and the paste command will be implemented in v3.0, due out sometime soon.

In version 3 paint-scrap will get the size info from the scrap and display a rectangle of the appropriate dimensions on the previewed page. You will be able to move the rectangle anywhere on the page, then click to deposit the scrap here. That's when the dialog box asking

for opaque or transparent will appear.

Terry Van Camp (TerryV5) also wrote a similar program called **ScrapIt v1.1** that cuts scraps of any size from a geoPaint document.

New Programs

ScrapIt! by Michael Schell (MichaelS30) is a new application that converts computer artwork stored in one of several graphic data file formats to another data file format. **ScrapIt!** has the "resident" ability to convert between (to/from) any of these formats:Photo Scraps (can create scraps larger than 32K!), geoPaint, Doodle!, Koala (Multi-Color formated data is re-arranged into Hi-Res format with color, and vice-versa). ScrapIt! also prints any of these formats Other formats can be used through the use of independent External Modules. To and from Blazing Paddles and to and from Print Shop are included as examples.

ScrapIt! runs under either GEOS 64 or GEOS 128 in either 40 or 80 column modes - including 80-column color! Of course you'll need 64K VDC memory and a RGBI monitor to see 80-column color.

Jim Collette (GEOREP JIM) wrote a little utility called **"40/80 flag"** for GEOS 128 users that will allow you to change the setting of the 40/80 Column Flag in a program's Info sector.

He wrote this program mainly for people who need to change the bytes in geoProgrammer so they can use it with GEOS 128, although this can change the byte in any program.

Just be warned that about 90% of the programs are not really usable in a different mode than they were written for. For example, if you try using geoPublish in 80 columns, or geoChart in 80, or geoWrite 128 2.1 in 40, etc., you will probably either get a total garbage screen, or possibly even a system crash.

One point: even though the options only say '128', no matter which mode you select, you will always be able to run the program from GEOS 64, because GEOS 64 doesn't care about the flags.

New GEOS Disks

RUN is coming out with a new GEOS disk called **RUN GEOS Companion**.On the disk you will find these files: geoAnimator, geoBach, geoMusicPlayer, Pattern Editor 2.0, File Merge, 1581 Bootmaker, Batch File Copier and its associated Autoloader, a 3-D Breakout game, a Master-Mind game, Clip Art designed by Susan Lamb, and an assortment of fonts. A documentation book is included.The RUN GEOS Companion is $24.97 and can be ordered from: RUN, P.O. Box 802, Peterborough, NH 03458-9802.

GeoPower Tools from Loadstar by Scott Resh (TTL Wiz) is a double-sided disk that contains 21 GEOS programs, 16 fonts and 90 clip art images. He has uploaded a PRESENTER program that is a demo showing what is on the disk. It is in the User Applications library.

The disk contains: **Calendar Printer** prints the contents of your Date Book from BSW's calendar program. **FFTB** - Fast Format That Baby formats disks in about 15 seconds! **Font Converter** converts fonts for use in GEOS from other formats. **geoFetch** grabs a copy of the current screen to disk as a photo scrap. Runs as a desk accessory.**GP Viewer** creates a small viewing window displaying a geoPaint file. Runs as a desk accessory. **geoReplicator** prints multiple copies of GEOS documents. **geoSID** is an improved version of the same program from Scott that plays SID songs from within GEOS. **geoC02** turns a non-GEOS machine language program into a geoWrite document that can then be assembled by geoProgrammer. **geoFile Info** looks at the text contained in the info box for any GEOS file. Runs as a desk accessory. **geoPixelPuzzler** scrambles a portion of a geoPaint document. Then you have to piece the puzzle back together. **Programmer's Calculator** is a calculator that offers math functions as well as conversions between DEC, HEX and BIN. Runs as a desk accessory. **Inspect Diskette** compares two disks and reports any difference between them. **Sector Editor** edits individual sectors on disk. Works similar to geoDebugger, only better. **Directory Aid** cleans up your disk directory. Fills in the open gaps. And there's still even more!! The disk costs only $9.95. Order it now by calling (800) 831-2694 or writing: geoPower Tools, Softdisk Publishing, Inc., 606 Common Street, Shreveport, LA 71101.

geoPrint is a new application by Roger Lawhorn (ROGER LU) that can print banners, Posters (four kinds), and greeting cards all from within GEOS.

The method is simple. You draw your banner, poster and or greeting card on a geoPaint document in a scaled down form. The geoPrint then enlarges, flips rotates and then prints it for you. Before, to make anything like this with geoPaint you would have to go to a lot of trouble to edit the whole geoPaint page. Now all you need to do is draw a scaled down version and geoPrint does the rest. You never have to move the geoPaint window more than two spaces up or down.

Here is a short description of each mode: Banner prints up to a 12 page banner at an 8 to 1 ratio enlargement. Vertical Poster prints exactly that with a 4 to 1 ratio. Horizontal Poster prints a 4 to 1 ratio. Greeting cards mode takes the front and back panels and flips them for you and prints a 2 to 1 ratio of all 4 panels. The Giant poster prints an entire geoPaint document prints in an 8 to 1 ratio. The Quarter POSTER prints in a 4 to 1 ratio.

Also included on the disk will be a new version of geosidplayer, a fontviewer that allows you to view up to 12 fonts on a disk, and some new print drivers.

Send a check or money order for $19.50 to Roger Lawhorn at: GEOPRINT DISK, 3632 Grey Fox Drive, New Albany, IN 47150.

geoLabel is a new program by Roger Lawhorn (ROGER LU) that is the best most flexible GEOS label program. You can make labels up to 4 by 2 inches with a graphic and text in multiple font and styles. Text is stored in a geoWrite file like a geoMerge data file.On the disk are many photo albums of Print Shop graphics which can also used with geoPrint. geoLabel is $11.95 and can be purchasd from the same address as above for geoPrint.

GEOS Future

Creative Micro Designs is on Q-Link as CMD and has announced new information about their **HD20** 20 MEG hard drive. The HD driver for GEOS is nearing completion.

They will be offering a patch which will allow use of all partition types with GEOS (including 16MB Native Mode). Partition switching will be supported, as well as full subdirectory support in Native Mode partitions.

The patch will make the required modifications to the DeskTop and Configure programs, and will further enhance the DeskTop by allowing it to use external device drivers. It is important to note that the patch will only work with GEOS version 2.

geoComics by Sean Huxter is an application program that lets you flip through pages in photo albums to read a story. Text will display at the bottom of the screen. You can have one bookmark so you can start reading in the same place later. It comes with a new graphic story created by Sean but you will able to use your own photo albums and create your own text with an editor that is supplied. His new address is: Sean Huxter, 40 La Marchant Road, St. Johns, NF, Canada A1C 2G7.

Peter T. Hughes (GeoLib PH) is in the process of writing a **GEOS Programs Directory** listing information about most all GEOS programs. Programs will be listed under these utility categories: Write, Paint, Photo, Font, Pattern, Icon, Disk, Printer, Games, and Miscellaneous. It will include the following information about a program: icon, name, author, location, type of application, size, date, whether it works 64 or 128 40 or 80 column mode and a brief description.

Inter-Computer Graphics Interchange

(Or: The Transfer, Conversion, Translation and Sharing of Graphics Between Computers of Different Types)

by Paul A. Hughes (SYSOP PH on QuantumLink)

Not all computers are created equal. Some have more memory, faster processing speed, more colors and higher resolution than others. Thus there is no graphic format standard to make the interchange of graphics between different computers easier.

I have been working on this article for about a year. It was only until the past month, with many new software developments, that everything started to fit together.

Graphic Format Standards

For an example, the Amiga, a powerful graphic computer, was designed to have a standard IFF (Interchange File Format) for graphics, which made the transfer and sharing of files between different graphic programs easier. Any file that was created in this standard file format can be directly loaded into any other paint program, new or old. The Commodore 64 is directly opposite to this way of thinking. Every new paint program has its own proprietary file format; unique from any other program. This makes it extremely difficult for graphic artists who collect graphics programs to use the unique features of many paint programs in a finish piece of artwork.

Commodore Graphic Basics

The focus of this article will be on the transfer and conversion of graphics between different computers - mainly the Commodore 64 and 128, Amiga and Apple Macintosh. But before I get into that, I want to give you some background on the basics of Commodore graphics. There are three standard file formats for the Commodore 64. What is considered high resolution mode is 320x200 pixels of black and white bitmap screen that is 32 blocks or 8K in size. High resolution multicolor is still 320x200 pixels, but consists of color cards on an 8x8 pixel grid matrix. The bitmap has on and off bits (pixels), but only one foreground and one background color per color card is allowed. Doodle is the standard format for this file of 37 blocks. Medium Resolution, often just called multicolor, which sometimes confuses matters, of which a 40 block Koala is the standard for this 160x200 pixel mode. Koalas allow 4 colors within an 4x8 pixel card area. Any more than 3 foreground colors and 1 background will result in color bleeding. So one has a choice of either higher resolution and less color or more colors but lower resolution. This is to conserve file size, because of memory limitations. On the Amiga every pixel can be any of 4096 colors. So file sizes vary greatly. A 640x400 pixel 16 color image can be over 100K; as large as what will fit on one 1541 diskette. GeoPaint, with its 640x720 pixel virtual page on disk, breaks the memory barrier by swapping in sections when needed. Doodle and Koala were the first commercial graphic programs which supported high and medium resolution. These programs are no longer readily available, because of being discontinued as in Koala's case.

Easily convert and transfer graphics between the C64, GEOS, C128, Amiga and the Macintosh.

The Commodore 64 was found to be a powerful and inexpensive computer for creating computer graphics, that a plethora of paint packages began springing up very quickly. Each program had its own unique features, but unfortunately they also had their own special file format. One could not simply load a picture into another paint program easily like on the AMIGA. There are approximately 50 known graphics file formats on the Commodore Computer. (See sidebar) That is why one is lost, unless one has conversion programs for all these file formats. Compuserve, which serves many different computers, created two standard file formats to help bridge the gap between different computers. RLE or Run Length Encoding was a file format that was sequential in nature and allowed different computers to display the same image. But this was fine for black and white images. With more powerful computers that supported more color and resolution such as the Amiga, Mac II, Atari ST and IBMs, Compuserve created the GIF or Graphic Interchange Format. But unfortunately, the lowly 64 has a slow and difficult time with GIF files. It is time-consuming to translate and display a 640x400 256 color image on a 160x200 pixel 16 color screen. It may take up to 4 or more hours to analyze and display an image.

Now that we know a little about C64 Graphics and its many formats that each program uses, how can we expect to convert graphics to and from other computers? Do not give up hope yet. How do we bridge the gap or find the link for converting graphics? Basically all computers deal with graphics in a similar manner. Most computers have high resolution bitmapped screens that are composed of cels of light called pixels (picture elements). These images are made up of pixels arranged in a grid or matrix of black and white dots. The focus of this article is an overview and sometimes indepth look at the ways and programs that are available for converting between these different graphic formats.

Commodore Graphic Converters

For converting graphics between different formats on the Commodore 64 there are several conversion programs available and many allow image processing and manipulations. They are: **Icon Factory V2** with **Grafix-Link** from

Commodore Graphic Formats

Medium Resolution

Adv.Art Studio	Animation Station
Artist	Artist 64
Billboard Maker	Blazing Paddles
Create w/Garfield	Flying Colors
Gamemaker	Image System
Koala	GG-Koala compressed
Kwik-Paint	Masterpiece
MicroIllustrator	Movie Maker
Mr Pixel	Paintbrush
Paint Magic	Picasso's Revenge
Peripheral Vision	Quik Draw
Rainbow Painter	RunPaint
Sorcerer's Appr.	Strip Poker
Super Sketch	Swift Paint
Vidcom 64	

High Resolution

Art Studio	B/Graph
Billboard Maker	Cadpak 64
Doodle	JJ-Doodle Compressed
Flexidraw	Graph Now!
Image System	Masterpiece
Paint Now!	Postcards
Print Shop SM	Profi Painter
RunPaint	Sahara Abstraction
Swift Paint	
GeoPaint	Basic 8 Paint

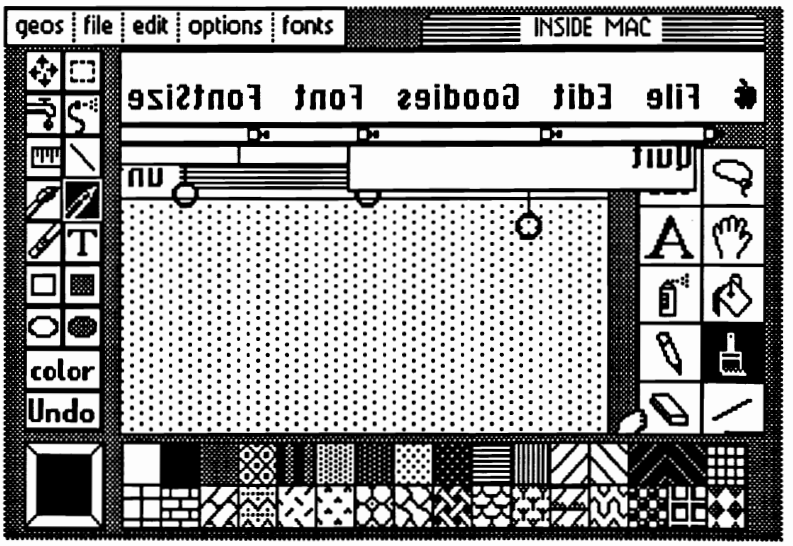
Solutions Unlimited and distributed through Free Spirit Software, **Graphics Transformer** from CDA, which is no longer available, **Graphic Integrator 2** from Inkwell Systems and a few others. One of the simplest to use and supports the most formats and is even public domain, is **Pixelpacker** by Steve Emsley (SteveE8). This program will convert 26 graphic formats into a standard Koala and Doodle. This fine program is available on QuantumLink in the C64 Graphic Toolbox Library under Picture Conversion Programs.

Koala and **Doodle** are no longer readily available, but **Advanced Art Studio**, from Firebird and now Datel, supports hires and multicolor formats. Only **RunPaint**, from Run Magazine, which runs under 64 or 128 modes, will load in standard hires, Doodle or Koala files. They have to be simply renamed with a special file prefix beforehand. These two fine paint programs are the most powerful, full-featured state of the art C64 graphic packages available. **GeoPaint** is also a powerful high resolution bitmapped full-page paint program included in the GEOS integrated family of products from Berkeley Softworks. The Commodore 128 in 80 column color mode has Basic 8 with Basic Paint and Spectrum 128 from Free Spirit.

The remainder of this article will touch on programs that will allow you to convert images into and out of GeoPaint, to and from MacPaint and converting C64 graphic formats such as Doodle, Koala, GeoPaint into 128 80 column and ultimately into Amiga IFF format. There are programs on the AMIGA that will convert IBM, Apple II and Atari ST graphic into Amiga format, but I will focus on ones that relate to Commodore formats in particular.

GEOS Conversion Programs

Berkeley Softworks' own **Graphics Grabber** on Deskpak Plus will convert Print Shop Side A or B graphics, PrintMaster and Newsroom Clip Art into GEOS Photo Scraps or Albums. **Get Graphic v1.1** by Nick Vrtis, will convert Print Shop Side A Graphics into Photo Albums. **Grafix-Link** will convert PS-A, PS-B, PM, Newsroom Photos, Flexidraw, Computereyes, Print Shop Screen Magic or Doodle into a GeoPaint and between each other. Also it will export any part of a top half 640x400 pixel section of a GeoPaint out into these formats. **Graphic Storm** by Joe Buckley, will convert Standard Bitmap screens and Doodles into a GeoPaint and Print Shop Side A or B, PrintMaster and Newsroom Photos into Photo Albums. **Import Runner** also by Joe Buckley, goes much further in that it converts Standard Bitmaps, RLEs, Doodles or JJ Compressed Doodles, Koalas or GG Compressed Koalas as 16 grey scale shaded hi-res images of 4 different pattern sets into GeoPaint or as a 320x200 pixel photo scrap and MacPaints into a GeoPaint file. **Paintview II** by Joe Buckley, will scroll around a GeoPaint, without the use of GeoPaint, and will also save a 320x200 full screen section of a GeoPaint out as a colored Doodle file, when you press the S key, when the section you want to save is displayed. **Picshow 3.3** by Payton Snider, besides doing a slideshow of many popular non-GEOS graphic formats and convert between the different formats themselves, will also save a hires color screen into a GeoPaint. See GeoWorld #22 for a more detailed review of Picshow 3.3. **MacAttack II** by Joe Buckley, will convert a MacPaint to a GeoPaint and a GeoPaint into a MacPaint file. **MacView V1.0** by Jim Collette, will let you view a MacPaint file on a GEOS 128 80 column interlace mode and scroll



GeoPaint with 'Inside Mac' MacPaint file converted with MacAttack II by Joe Buckley on a Commodore 64.

about the image. On LoadStar 128 Vol. 4, is Scott Resh's Basic 8 to GeoPaint converter. It converts a 640x200 pixel screen to a GeoPaint. It has little value in that most all color is lost and some distortion results, because of the narrower pixels on the 128 80 column screen. The aspect ratio of the pixels on a resulting GeoPaint is stretched in the width.

Commodore 64 MacPaint Viewers

Macto64-1525 and **Macto64- Epson** by Siamak Ansari will let one view and scroll around a 576x720 pixel full page MacPaint file, save any displayed window section as a Doodle file and print from any part of the whole MacPaint file on a 1525 or Epson type printer at 72 or 80 dpi and allows a compressed screen preview mode to allow one to see more of an area of the file. There also are programs to convert Atari ST to C64 formats (STC64, STC64.M and STC64.DOC by Syn error) and RLE to and from Doodle converters.

Commodore 128 80 Column Converters

On the Commodore 128 80 column mode, one can convert Amiga IFF black and white images into Basic 8 format with **ACBM2B8** by Loren Lovhaug, found in Twin Cities 128 #22. This will convert an uncompressed IFF Amiga ACBM file into a Basic 8 file. **GeoView 128** by Deverin, with the 64K VDC Chip installed in the C128 will view GeoPaints in 80 column color interlaced mode in a 640x576 pixel section at once and does not require GEOS or GeoPaint. **Macread 128 V1.0** by Stephen KC, only requires the 16K Video Chip and allows 3 compressed display modes to view more of a page at once. **Macview128d.sda** uploaded to QLINK by Ray Cosmic contains **Macview128**, which requires 64K VDC, is similar to Siamak Ansari's Macview 64 program, but is for 80 column mode. Also included is **MACTOB8** which will run using 16K VDC, is a program to convert a full page MacPaint into an uncompressed Basic Paint file and 64K VDC is required to load and view the Basic 8 file. **Flickermac V5.0** by Deverin requires a C128D or C128 with 64K Video Ram. Flickermac V5 will view a MacPaint file in 576x590 pixels in interlace mode and save a colorized version in 72x118 character block resolution.

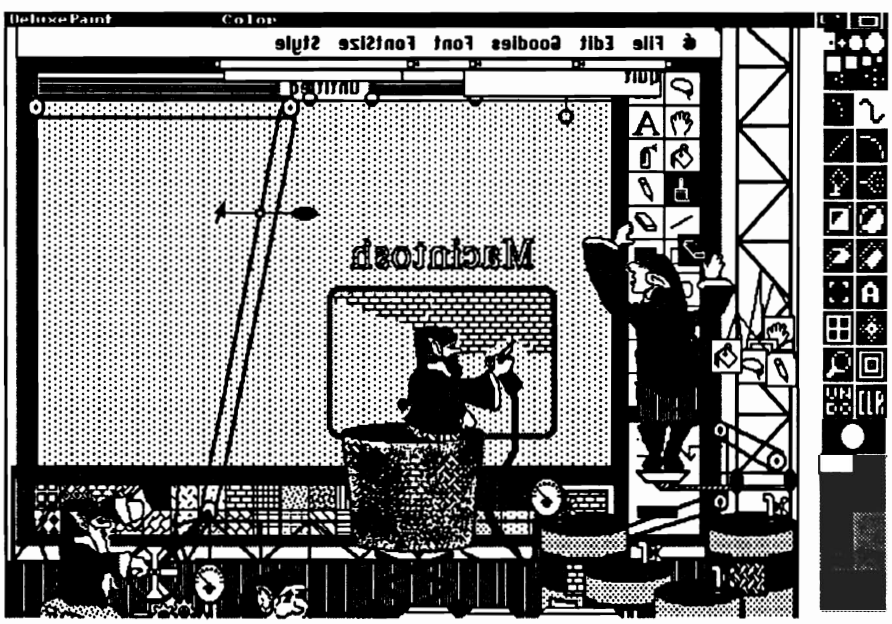
Colorez by Tom Brown will convert a Doodle to the left or right half of an 80 column screen or expand the 40 column file to 80 column width by making the pixels double wide. It will also export the left and right sections each as Doodles, to re-edit and later convert back to 80 columns.

A revolutionary new 128 80 column conversion program called **ANTE UP** - The Basic 8 Graphics Translator will convert Printshop Side A graphics, Doodle files, ComputerEyes bitmapped screens, even multicolored Koalas and GeoPaint edit window sections or virtual half-page sections into Basic 8 format. The Virtual Geopaint translation corrects for screen distortion: graphics which were vertically "stretched" will appear in correct proportions. The 80 column screen allows a higher screen resolution of 640x200 pixels and 8x2 pixel color card resolution.

Lacemaker 128 V1.0 compiled by Rich Kane is an interlace utilities workshop. These set of programs will convert MacPaint to geoPaint, Geos Photo Scrap to Basic 8 brush format and Print Shop graphics to a Basic 8 brush format. Also it allows one to import these Basic 8 files and Doodles into a 640x400 interlace screen format. Contact Twin Cities 128 magazine for further information on this and **IPaint,** a 640x400 interlace 80 column color paint program by Rich Kane. It allows 4096 "apparent" colors on the screen at once with dithering. These interlace displays are impressive and rival some Amiga screens.

AMIGA Graphic Converters

Macview on the Amiga, will load and view a MacPaint file and save it as a 640x720 pixel Amiga IFF file. It will load in a 640x400 or 320x200 pixel IFF file and if the Amiga IFF contains color it will greyscale the colors as patterns in the MacPaint file. **GeoView** by Art Dahm will convert a SEQ converted GeoPaint into a black and white 640x720 pixel AMIGA IFF file. Also included is **GFCONV**, a Geos Font to Amiga Font converter with adjustable letter spacing option. **ConvertKoala, ConvertDoodle** and **Convert PrintShop** by Brian Conrad will convert these Commodore files into Amiga IFF format. One can transfer the file via modem or read a 1581 3.5" disk on a AMIGA drive with the TRANSFER program on the ReadySoft 64 Emulator 2 disk. If one has the optional serial cable one can read and write to a 1541, 1571 or 1581 disk drive connected to the Amiga parallel printer port.



Deluxe Paint III with Animation, in 640x400 pixel, 16 Color Interlaced mode with a MacPaint file converted with MacView on the Amiga.

Note: When converting Koalas and Doodles to Amiga IFF files, Brian Conrad's convert program does not create a color palette that resembles the screen colors on the C64. They come out too vivid and bright. So I load the image into Deluxe Paint III and alter the palette by using the palette from a previously saved corrected picture.

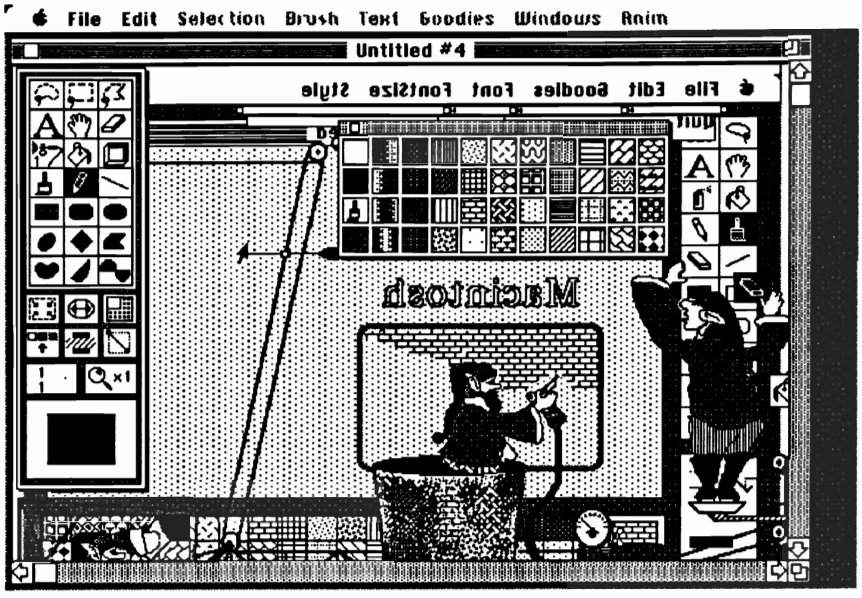
Transfer of MacPaint Files

I would like to summarize the ways to transfer files from one computer to another and how I use all these programs almost all the time. There are vast collections of Macpaint files of full page images and clip art on various commercial telecommunication networks, such as PeopleLink, Genie, Delphi and Compuserve. Also there may be Macintosh or IBM Bulletin Board Services in your area that have MacPaint files. One should note, that only MacPaint or FullPaint files can be used; not StartUp Screens or files compressed or combined in .SIT (StuffIt) or .PIT (PackIt) files. These can only be used or uncompressed with a Macintosh.

Another way is to use GeoTerm or any other terminal program for the C64 or 128 and have someone with a Macintosh modem the files to you. This way you can get the files onto a 1541 disk format.

A Mac drive runs at different speeds on various parts of the disk. This multi-speed formatted disk cannot be read on a 1581 or an Amiga 3.5" disk drive. If you have an AMIGA, you can use a real Mac Drive and MAC-2-DOS software and hardware connector from Central Coast Software to read and write to a real Mac disk to an AMIGA disk. Then you can use the ReadySoft 64 Emulator Transfer program to get the files onto a 1541 diskette. MAC-2-DOS also includes programs on the disk for the conversion of Amiga IFF images to and from MacPaint files and conversion of Macintosh fonts to Amiga fonts.

And ultimately, what I do to convert MacPaint files to and from a Macintosh, does not require a Macintosh. You may wonder how can that be done. Well, I have AMAX, the Macintosh Emulator for the Amiga from ReadySoft. It runs all



Amiga with AMAX Mac Emulator running Studio/1Paint & Animation with a MacPaint file converted from GeoPaint with MacAttack II by Joe Buckley.

Macintosh graphics and productivity software. With the Amiga blitter chip for faster screen refreshes and the larger 640x400 Interlaced Amiga screen, it is better than having a Macintosh and much cheaper. I have a real Mac drive, so I can read and write Mac disks right out of the box. What is required to run AMAX is the AMAX emulator software, a pair of 128K MAC ROMs that plug into the AMAX Cartridge and a real Mac drive is highly recommended. The set-up I have is an AMIGA 500 with 2 Megabytes of memory, internal and external AMIGA drives and a real Mac 800K drive from Cutting Edge. I set up the second 1 MEG of memory as a recoverable RAM DISK where I store my SYSTEM folder with fonts, desk accessories etc. This allows even faster access for many used options.

Now you can have the BEST of BOTH worlds and run powerful color AMIGA software and Macintosh Productivity software on one computer.

One can purchase the AMAX package from any AMIGA Mail Order company. The complete package to get you up and running Mac Software is: AMAX Mac Emulator - $139, Mac 128K EPROMS - $149, AMIG-a-TOSH 800K Drive - $179, all for a special price of $429. Now you can have the BEST of BOTH worlds and run powerful color AMIGA software and Macintosh productivity sofware. AMAX V2.0 will have hard drive support, sound and maybe multi-tasking. This would be a dream come true! That is what I said when GEOS first came out, because I always wanted a Macintosh to use.

Upgrading Your Graphic Application Needs

I still use my Commodore 64 and Commodore 128 for many uses such as word processing etc. But if one wants to upgrade to a more powerful graphic computer for real desktop publishing applications, you do not have to abandon or forsake all the work you have done and collected on your lowly C64 with GEOS. Also you have the option to run and take advantage of Macintosh software with AMAX Emulator; which is what GEOS was based on. What I do now is create images with GeoPaint and convert to AMIGA with GeoView for use in Deluxe Paint III or Deluxe Photo Lab. I can convert Geopaints to MacPaints with MacAttack II and use them under AMAX with Studio/1, MacPaint 2.0, FullPaint or SuperPaint 2.0. I can use

their many powerful graphics tools and special effects, such as grab any part of the screen as a brush and rotate it at any angle, shear, bend, resize, distort and do a perspective on it. I can later convert back the file to Geopaint with MacAttack II. Unfortunately, Art Dahm's GeoView will only convert GeoPaints to Amiga IFF and not vice versa. So I must convert a AMIGA IFF to MacPaint with MacView; then again convert from MacPaint to GeoPaint with MacAttack II. A one inch section on the right of an IFF file is missing, when converting a 640 pixel wide Amiga IFF file to a 576 pixel wide MacPaint. I use GeoTerm on my Commodore and Red Ryder terminal software on my AMAX Emulator, to transfer files back and forth via modems.

So with my C64 and C128 with GEOS and my Amiga with AMAX Emulator, I can do just about anything I want to do with graphics. I never would have thought this was possible before, without these conversion programs.

Future Conversions

RunPaint, on the Commodore 128, allows a high resolution full page of 640x800 pixels in memory, all at once. If one can create a program to convert a GeoPaint to and from a RunPaint 128 page, then that will open up the doors for many non-GEOS users to view, edit and print GeoPaints. That is fine, if the conversion program does not require GEOS to operate. What I do now is save sections of the GeoPaint as Doodle files, then rename and load them into RunPaint, a section at a time. This way is tedious, awkward and cumbersome. A direct conversion would be much easier.

Programs listed in this article:

Commodore 64

ICON FACTORY w/ GRAFIX-LINK Solutions Unlimited distributed by Free Spirit
Graphic Integrator 2 - Inkwell Systems
Graphic Transformer - CDA (N/A)
Macto64 by Siamak Ansari on QLINK as "macto64-1525.sda" and "macto64-epsn.sda by Siamak.
RLE to/from Doodle on QLINK as "rle/doodle.sda" by WendelUrth
PixelPacker by Steve Emsley on QLINK as "pixelpacker.sda" by SteveE8

GEOS

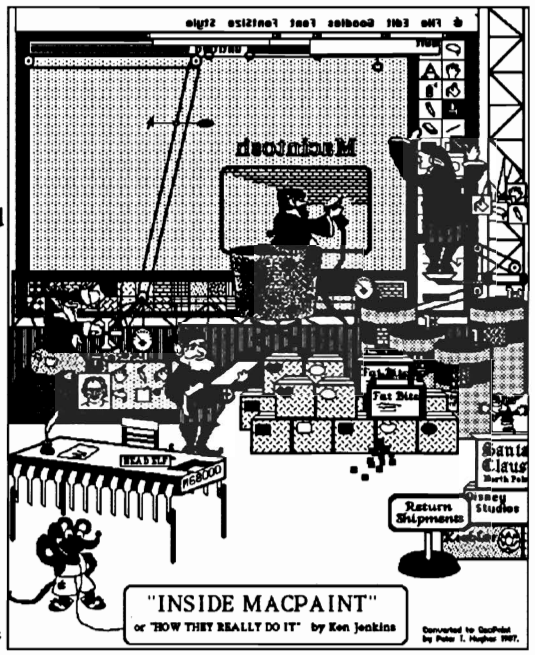
Graphic Grabber (BSW) DeskPak Plus
Graphic Storm (Joe Buckley) on QLINK as "graphicstorm" uploaded by Fleximan.
Get Graphic V1.1 - Nick Vrtis on QLINK as "get graphic" uploaded by GeoRep Tim
MacAttack II by Joe Buckley - QLINK as "attack2.sda" by Red Storm.
Import Runner by Joe Buckley on Run GEOS PowerPak II
Paintview II by Joe Buckley on Run GEOS PowerPak I or on QLINK RUN Magazine Library
Picshow v3.3 by Payton Snider on QLINK as "picshow3.3" by GeoWorm
Interlace MacViewer by Jim Collette on QLINK as "mac viewer" by Jimbob2

Commodore 128

ANTE UP by Bill Foster and Rick Ferreira - 4224 Bakman N. Hollywood, CA 91602
Geoview 128 - Deverin
Flickermac 5.0 - Deverin
Macview128/Mac to Basic 8 - Ray Cosmic "macview128d.sda"
Macread 128 v1.0 - Stephen Casey (Stephen KC)
Basic 8 to Geos - Scott Resh on LoadStar 128 Vol. 4
ACBM (Amiga IFF to Basic 8) on QLINK as ACMB2B8 by Loren Lovhaug
Lacemaker V1.0 by Rich Kane

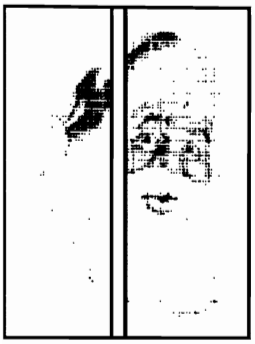
AMIGA

GeoView and **GFCONV** by Art Dahm 40 Adams Ave. Norwalk, CT 06851
Macview for Amiga
ConvertKoala, ConvertDoodle and **ConvertPrintshop** by Brian Conrad found on QLINK or Fred Fish Disks
AMAX - Mac Emulator for Amiga - ReadySoft, Inc.
MAC-2-DOS - Central Coast Software



'Inside Mac' MacPaint

'Street Scene' MacPaint



Color Separation for 4-Color Process Printing with geoPublish

A detailed guided tour through the design and production of cover #22

By Roger Eller

Miracles

The Santa Claus on cover #22 was the first of it's kind in the Commodore 64/128 world, thanks to the help I had in gathering the bare essentials to do the job.

The story goes like this... I created a batch of rough thumbnail sketches for cover #23 and chose the one most befitting (#23 was going to be the Christmas issue). Problems led to lost time, and #22 was set to be the one.

Finding the perfect Santa for the job in a clip-art book where I work, I E-mailed GEOWORLD the news. Publisher, Roger Ledbetter, attempted to make a video-scan of the artwork so the color-separation procedure could be engaged. A noble effort, but the resolution was very poor.

Since geoPublish has the ability to scale and smooth bitmap graphics to 300 dpi (dots per inch), I decided to enlarge the artwork 200%, have it scanned at that size, and put it back together in geoPublish. Running out of time, I found a local printshop that scanned the art on a Macintosh scanner, and saved the panels as MacPaint files. We attempted a modem transfer, but were not successful.

Frustrated, but determined, I sent the Mac disk from the east to the west coast, to let Roger (GEOWORLD) try making the conversion. Triumphantly, the files were uploaded to Q-Link where Peter Hughes (GeoLib PH) made them available for me to download the following day.

During the waiting time, I had color separated Santa a hundred times in my mind. Finally, my theories were actuated.

Color-Theory

First of all, I made a xerox of the original art and colored it with colored pencils.

Upon choosing the 4-Color Process method of printing, I took a process color chart and chose the closest colors to that of my pencil rendering. These charts are available at many graphic arts suppliers. If you've never used one, you might want to ask the salesman to show you how to read the percentages.

I used the geoPublish screen patterns to make all my colors primarily because they Laser-Print as finer, more accurate screens than the geoPaint patterns. With the finer screens, the illusion of solid color is more pronounced. Since geoPubLaser generates PostScript output, it is conceivable to get 1270 dpi screens by printing geoPublish files on a Linotronic laser type-setter.

The limitation, however, is in the variety of screens to choose from. To make all colors in the spectrum, you need the ability to mix any sequence of screens from 1% to 100%. The screens available in geoPublish are: 25%, 50%, 75%, 85-90%, and 100%. So, I kept this in mind, and chose colors that only required these percentages. The formula that made the red in Santa's suit is 90% yellow + 100% magenta = red (printed in that order; lightest to darkest). Then black was printed last to add tones of gray. It works best to set up the file for Black, then base the other separations on it.

Separation for BLACK

The 4 panels that appear as window panes were enlarged to 200% of their original size and converted to geoPaint files. Then using Paint-Scrap, they were converted to page-size photo scraps and stored in an album.

Setting up a geoPublish file, in Master Page mode, I created the geoWorld mast head. My snap guides were placed in the center of the page (horizontal & vertical), and at 1/2 inch margins (left, right, top, & bottem). With Snap activated, from the Options menu, I copied the scraps from the album and pasted them into position. Since they had to be re-sized, I set their attributes to scaled to fit, and smoothed. When laser printed, this doubled the resolution of the image.

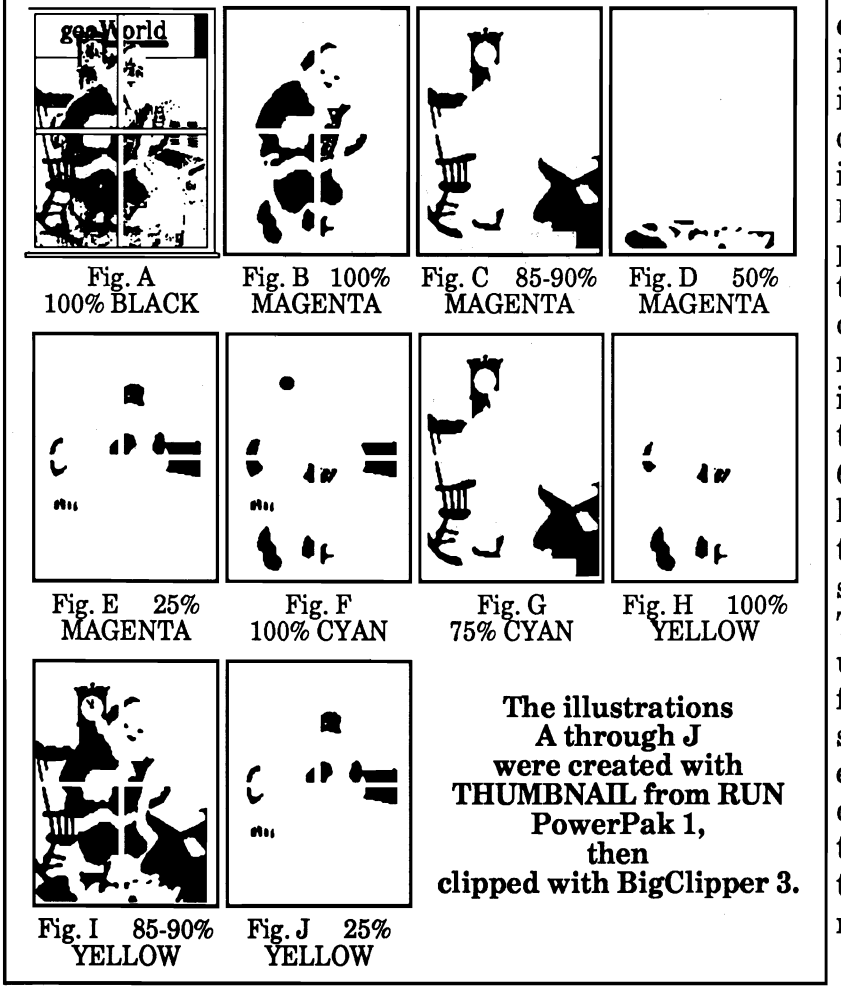
The purpose of the window sill is not purely for design purposes. Actually, I feared not being able to re-align the scraps to a perfect fit; I didn't want any overlap, or white space between. As you see, in the bottem left panel, there is a line that runs through the chair leg, and Santa's leg. This was caused by mis-alignment of two page-size scraps. Why are there two scraps in that panel? Well, Paint-Scrap told me that the image was too complex to convert, so I erased the bottem portion and clipped, then erased the top and clipped. Then when I overlayed the two scraps, the line wasn't visible on the screen. This is a perfect example of what can happen when the actual resolution of the image is more than that of what the screen can display.

You should have seen the original scanned art for the bottom right panel... terrible line work. So I only used that part as a template, or guide to trace with the geo- Publish tools. These tools produce object-oriented graphics, which are far superior over bitmaps when laser printed. I did the same thing with the Roman Numerals on the face of the clock. Here, however, the LW Piedmont font was used. The keyboard and mouse are scaled and smoothed bitmaps (the same keyboard that was used on cover #21). Scaling and smoothing has improved the resolution here also.

Separation for MAGENTA, CYAN, & YELLOW

The Paint Pages printer driver was selected, and a MASTER paint file was made by printing the completed Publish file for BLACK. *This MASTER file is the key to the color separation procedure.*

I made a duplicate of the MASTER file for each screen percentage of Magenta to be used. The first being 100% (or solid black). The areas of the design that were printed in 100% Magenta are shown in Figure A. These duplicate Paint files were labeled by color and percent (as in Figures A through J). The illustrations A through J were created with the Thumbnail program from RUN PowerPak 1.



These miniature pages could actually be used as separations by clipping them and assigning correct screens to them in geo-Publish (as long as they are placed in perfect register with each other).

Here is how I separated the various areas to be screened: In

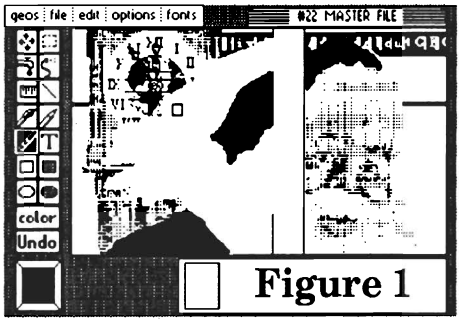


Figure 1

geoPaint, I opened a *duplicate* of the MASTER paint file. I selected a medium size, round brush from the Options menu, and I painted all areas that needed to appear as 100% Magenta. Then I erased everything in the surrounding area, leaving only solid Black images. (See Figure 1). This procedure has traditionally been done with film negatives and positives, where a thick liquid called *Opaque* is applied with a brush to achieve the same end product. The advantage to using a computer for this is the savings in material cost. The disadvantage is the jagged edges that come with bitmapped graphics.

Another cost-saving procedure that would require much film the traditional way is the combining of two or more images. There is no need to erase and paint the same image twice; that would be a waste of valuable time. Look at figure I. This separation was achieved by selecting OVERLAY as the printer driver, and making a duplicate of 100% Magenta (Fig. B), renamed as "OVERLAY". By erasing the boots, then combining with Fig. C and Fig. D, Figure I was made with practically no effort (B+C+D=I). Some of the separations needed only to be duplicated (Fig. G is a duplicate of Fig. C).

Drop-outs are necessary to make lighter colors appear to be in front of darker colors. This is illustrated in the geoWorld Mast Head. Green appears to be in front of red, however, if this were actually the case, the overlapping of transparent ink would create an undesirable brown. So all colors that were part of the red had to have an opaque white dropout in the precice position of the colors that made green. This is the resulting effect of a drop-out:

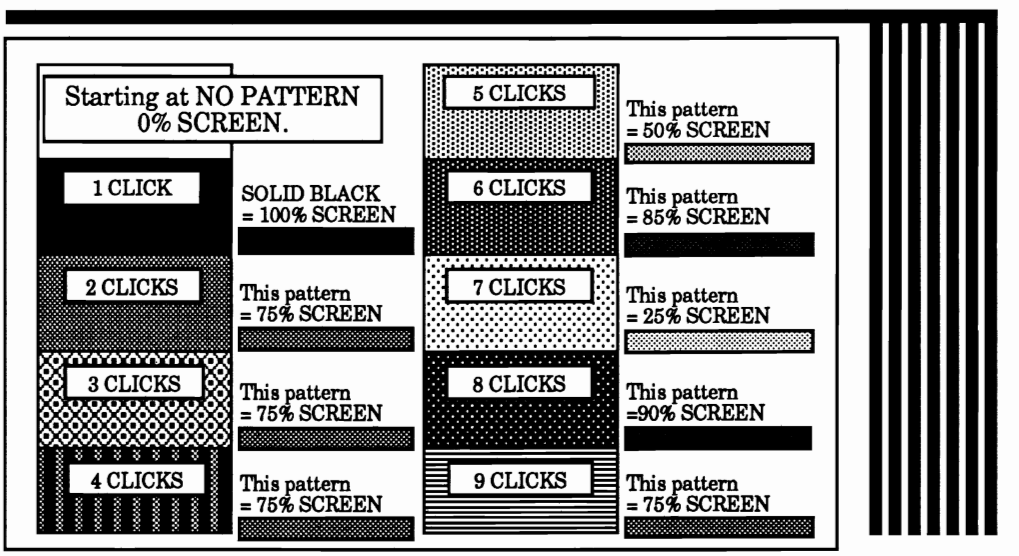
geoWorld

Drop-outs were needed for the C64 and mouse also. This is because photo scraps are transparent in geoPublish. You have to create a solid black image in geoPaint that fits the shape of the photo scrap you plan to import. The solid scrap has its atributes set to white, and is placed between Santa's desk and the C64 scrap.

When all separations were completed for varied percentages, (Fig. B through J), I used Paint-Scrap to convert them to page-size scraps. I placed them in their appropriate albums, labeled by color, for importation into geoPublish. For organizational purposes, I kept all components, or pieces, on separate disks (a disk for each color).

Assignment of Screens

The screens produced by geoPublish are better than those in geoPaint because they print at 300 dpi on a laser printer rather than 80 or 60 dpi like most dot matrix printers. The illustration below shows the screen percentage achieved on a laser printer when its corresponding pattern is selected. They are shown in the order they appear in geoPublish when the up arrow is clicked from the attributes select box. As you can see, the 75% screen is somewhat repetitive. It would be nice if the codes could be altered to give a wider variety of screens to choose from.



After all scraps were in their appropriate albums, I created <u>three</u> duplicate geoPublish files from the BLACK, and I labeled these: MAGENTA, CYAN, and YELLOW. Individually, I deleted all objects that were not to be that color. Some of the objects stayed, like the mast head, which simply needed a slight attributes adjustment.

The importation of the separated paint scraps was then engaged. First, I set up a horizontal and vertical SNAP guide in <u>MasterPages</u> mode. Left and Top were flush to the extremeties of the page, and therefore needed no guides. Right vertical was set at 7 - $^{3}/_{4}$", and Bottom horizontal was set at 10 - $^{16}/_{72}$". The attributes of the scraps were centered in region, and smoothed. SMOOTHING, in this case was a mistake; because the files were so large (so many page-size scraps), it really put the laser printer to a lot of trouble to 300 dpi smooth all those bitmaps. Mr. Ledbetter informed me that the laser had been processing one of the files for over 13 hours, and had not yet produced a hardcopy. So, to get geoWorld printed by Christmas, the smoothing had to be cancelled. The BLACK was smoothed and took 2 hours

to be processed by the laser printer.

As I imported the scraps and set their screen percentages, I noticed that their edges were still visible beyond the window frame. To correct this, I selected each object of the frame, and brought them to the front. The opaqueness of the objects trimmed the edges of the scraps to the same position. The attributes of the window frame objects were set to *no line thickness* to insure trap of the scraps under the black lines.

Laser Printing

The quality output produced by laser printing is very good, however, I must warn you of the possible expenses if you do not have a laser printer of your own. If your design consists of text and very few bitmap graphics, like a resume', dealing with a laser printing service can be a very good deal. If your design is as complex as a 4-color process separation, it could cost a fortune (no exaggeration).

If, for example, the service charges $30.00 per hour for the printing time that excedes 15 minutes, and each file takes 13 hours like the Santa cover (4 files), the cost would be $390.00 per color, or $1,560.00 for all four colors. Frightening, isn't it? Lucky for me, GEOWORLD paid me instead of charging for the laser printing (not quite $1,560.00 though). I thoroughly enjoyed the experience anyway.

Tip: It is not necessary to edit each scrap if you change your mind about smoothing. Just select or unselect it in geoPubLaser.

Roger Eller

Now available: the disk of GEOS programs that you've always wanted! Over a dozen great programs to help you get more from your GEOS system, many 80 column compatible.

Font Monster: a radical new approach to creating GEOS fonts!

How would you like to create fonts using such graphic tools as: dot, line, box, circle, copy, cut, paste, mirroring, regional pattern fill, image inversion, bit image scaling and more! Sound familiar? It should. What I just described was a graphics editing utility that every owner of the GEOS system already has: geoPaint.

Font Monster will allow you to grab your font images directly from any geoPaint file through an onscreen window, no photo scraps involved. Modify existing fonts or create new fonts from 4 to 48 point. Individual characters may be up to 56 pixels in width! Flexible saves: fonts can be saved to any point size (GEOS 64/128, 40 column only).

Wrong is Write V8.0: an updated 80 column compatible version of my universal text conversion utility.

REU Zap II: preset an entire RAM 1571 to be reloaded by merely double-clicking a single file. All details of the RAMdisk are retained, including notepad page distribution and even disk name! Now creates AUTO_EXEC files!*

Any Drive Boot: 'boot' GEOS from any of the normally supported disk drive types. Requires 17XX series RAM Expansion Unit (currently supports GEOS 64 V1.3 and V2.0 only). New versions support AUTO_EXEC files!*

Plus more!

Storm Systems Disk I available for $20. To order, send check or money order to:

Taking the GEOS world by storm!

Joseph Buckley
Storm Systems
464 Beale St.
W. Quincy, MA 02169

*Owners of **Storm Disk I** may upgrade the files **AUTOBOOT 64/128 (GEOS V2.0** only) and **REU Zap II** to their latest versions for $3.

GEOWORLD #23 Disk **$5** U.S.

This disk is full of new GEOS programs, clip art and fonts.

Create large Photo Scraps from a preview of a geoPaint page with **Scrap It v1.1** and **Paint-Scrap v2.1. ScrapIt!** will convert large Photo Scraps, geoPaints, Doodles, Koalas, Blazing Paddles and Print Shop graphics between each other.

Print labels with **Multi Label** and **GEOlabel.**

Dump your GEOS screen to your printer with **print screen, prinIt!** and use **ruler** to measure images before printing.

Set 40/80 Flag will make programs run under GEOS 128 in 80 columns mode.

MaAttack II.will convert geoPaints to and from MacPaint.

Four-color separation chart for geoPublish, new **Star Fonts** and winter clip art, etc.

Future geoWorld disk are now available with first class subscriptions. See order form on back cover for full details.

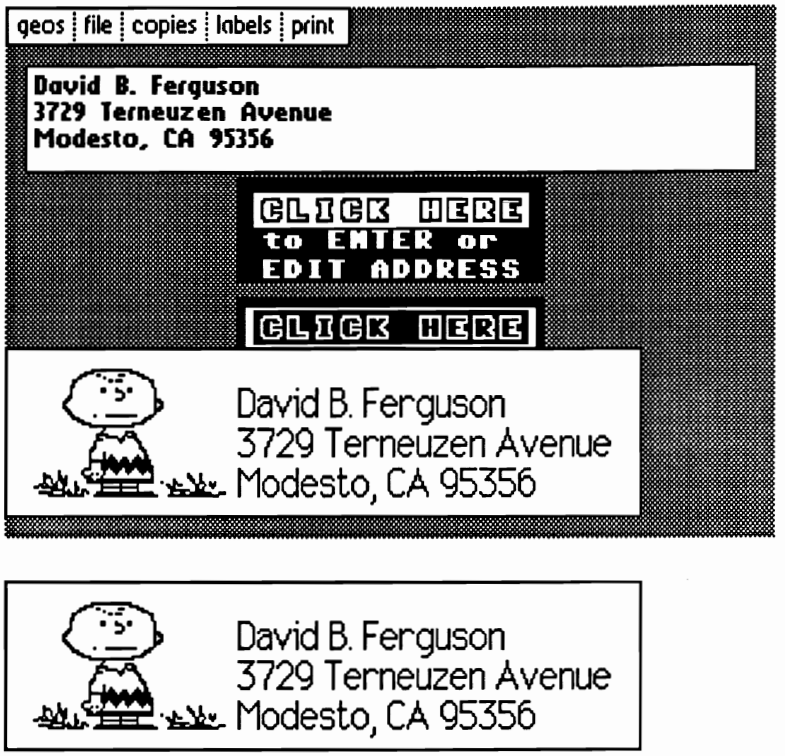
GEOS GEMS -

By Peter T. Hughes

Label Makers

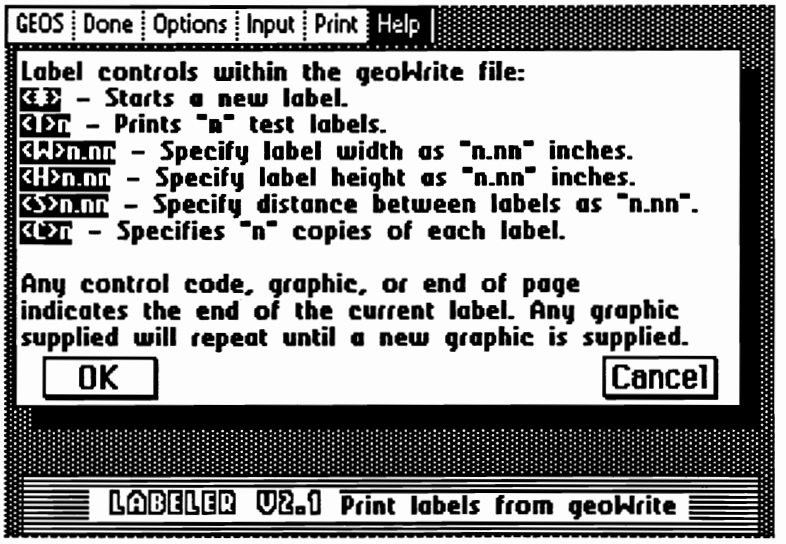
Multi Label

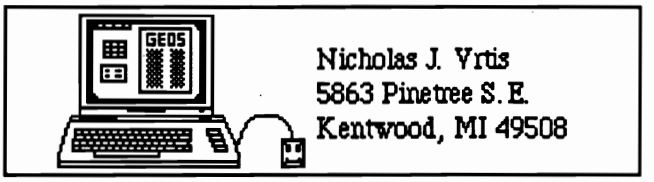
Multi Label v1.1 is by David B. Ferguson. This program will print graphic and text labels. Graphic labels are photo scraps of graphics and fonts that you create in geoPaint. Store graphic labels in Photo Albums. Text labels are three lines of text in NLQ or ASCII. Up to seven text labels can be saved and reloaded. You can only print one label, but it can be printed 1, 10, 12, 20, 24, 40, or 48 times. You have to use a special 1" printer driver. With another special printer driver you can use imbedded codes to change styles on NLQ text labels. Label size is 3 1/2" by 1". This program is good for printing all graphic labels and for those often used address labels. Send comments to: David B. Ferguson, 3729 Terneuzen Avenue, Modesto, CA 95356.



Labeler

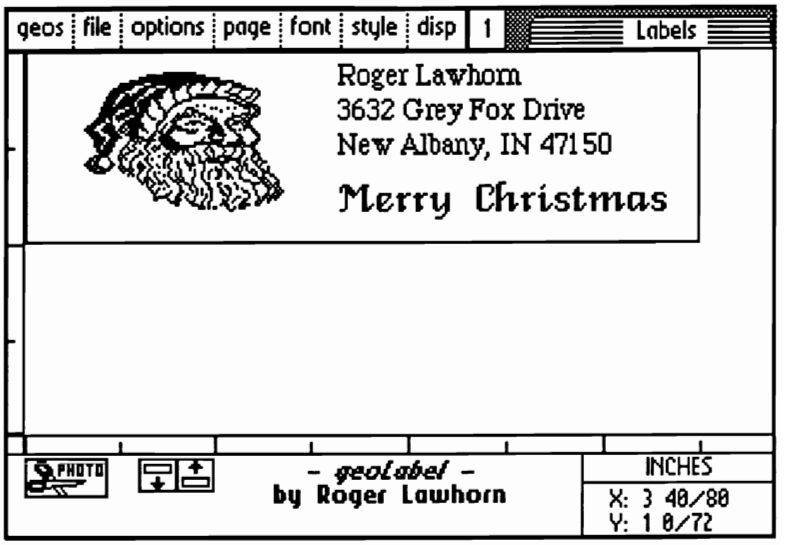
Labeler v2.1 is by Nicholas J. Vrtis. This program produces labels with a graphic from a GeoWrite input file. The program has defaults which can be changed from menus, but you can change these any time through special codes in the geoWrite input file. You can specify the width and height of the printed area, the distance to skip between labels and the number of copies to print - up to nine times - for each label. You create text in geoWrite in any mixture of fonts and styles and the pasted graphic prints on the upper left corner of label. The printer can be selected from within the program. Send $10.00 user fee to: Nicholas J. Vrtis, 5863 Pinetree S.E., Kentwood, MI 49508.

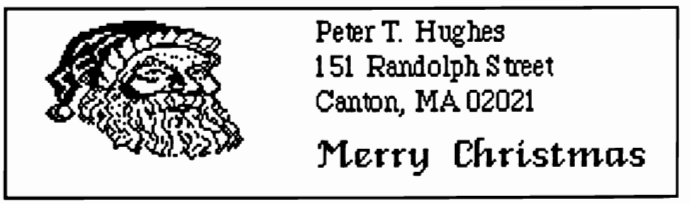




GeoLabel

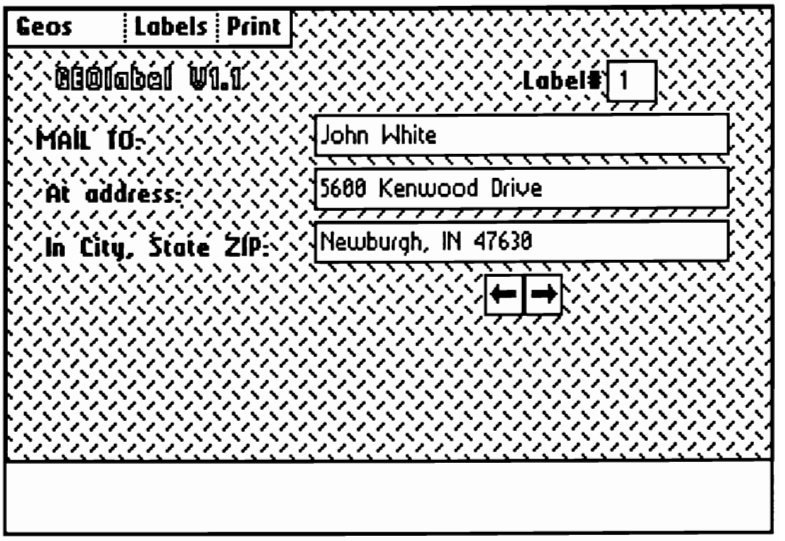
GeoLabel v1.0 is by Roger L. Lawhorn. This program is very flexible and powerful and can be used for addresses or any other data.. Data is created in a geoWrite file which can be a geoMerge file. Each line in geoWrite - up to eighteen - can be one of the eighteen fields in geoLabel. The nineteenth field is reserved for the text scrap. An asterisk separates each label. The fields can be selected and moved freely around the label to create a layout set-up that can be saved. Each field can be in any of nine fonts or in any style. Fields can be attached to each other. Text can be entered before or after a field. Each set of data must have the same piece information in the same place. There are rulers in geoLabel that can be changed by modifiying the parameter for the printer's dots per inch. Photo scraps can be placed anywhere on the label. Fields, photo and text scrap can be ingnored. A single pixel frame can be placed around label. You can create any size label up to 4" by 2". A special no line feed printer driver is needed. The Geolabel disk includes many photo albums of clip art. GeoLabel can be purchased at $11.95 from Roger L. Lawhorn, 3632 Grey Fox Drive, New Albany, IN 47150. This is the very best GEOS label making program.

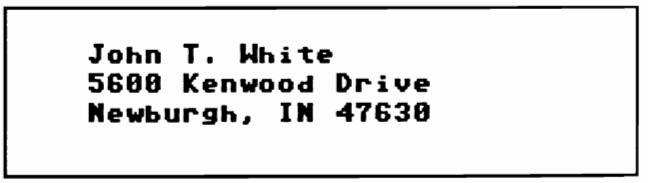




GEOlabel

GEOlabel v1.1 is by John T. White. This is a short and simple three line address label maker that prints in the NLQ (near letter quality) mode of a printer. You can create up to 127 labels. Each label has to be saved to an opened file after each entry. You can print the currently viewed label or all labels. This program is good for printing up to about 100 labels that you enter only once in order and do not need to do any searching or alphabetizing. You can write anything on the three lines. Send comments to: John T. White, 5600 Kenwood Drive, Newburgh, IN 47630.





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.

MAKING TRACTOR FEED LABELS WITH GEOPUBLISH

by Dick Estel

Back in Issue Number 16 Peter T. Hughes wrote about making labels with geoPublish, using full-sheet label stock and cutting the labels after printing.

The ability of geoPublish to allow precise control of layout and resizing of graphics makes it a natural for label creation. I decided to try using it for tractor-feed labels, with very satisfactory results.

The key to success in this project (like many GEOS applications) is patience, and a willingness to sacrifice some paper and a few labels while experimenting to get everything just right.

Labels Made Easy

Once I had measured out the correct size for a label, I entered master page layout and created guidelines for it. I also drew a "measuring tool," which indicates the top and bottom of the label area, and the space between labels. Then I used this tool to place the rest of the guidelines. Since guidelines must be placed in preview mode, which does not permit exact placement, I switched back and forth between zoom and preview, moving the guidelines slightly until they were just right.

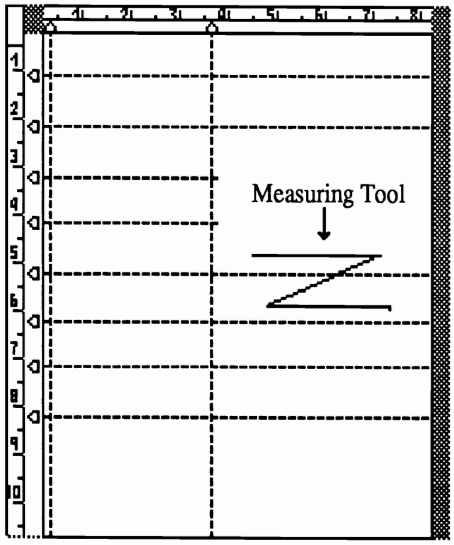
Before returning to page graphics mode, I drew an "invisible" box to hide the tool. (However, remember that a laser printer is not WYSIWYG. It's WITIWYG--What Is There Is What You Get. You cannot hide something with an invisible box if you plan on using a laser printer.)

Once in page graphics mode I created the labels I wanted, placing the top part of the label flush against the upper guideline. I printed them with a Star SG10 on Memorex 3 1/2 x 1" labels. By positioning the very top of the printhead guard just below the top of a label, I found that it would feed past that label and print on the next one in the right place.

Once you have created a page of labels in this way, you can keep the ones you want to save for future use by moving them to the right side of the page and covering them with an invisible box (assuming you use a dot matrix printer).

Although setting up your document for labels like this takes some time at first, once you have positioned everything just right it is a simple matter to make new labels whenever you need them. They look very nice, and give you much greater control than the various label printers available for Print Shop graphics and similar programs.

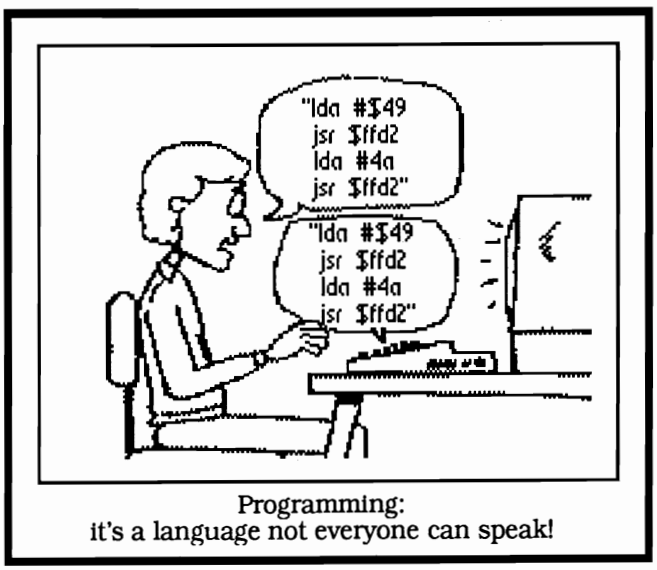
(The author is on Q-Link as DickE.)



geoPublish Master Page Mode

Sample Labels

Programmers are worth their weight in RAM Chips!



Programming:
it's a language not everyone can speak!

CartoonKid is pontificating and expounding.
By Dale Beach

You know, I really love to pontificate. I mean, I *REALLY LOVE* to pontificate!

What does "pontificate" mean? Well, here. Let me expound on that particular matter for a few hours...

Or then again, maybe not. Each of us has many things that we are good at, some useful, some not.

But, if I were to expound on programming, I'd have *no choice* but to wax pontifical, since I know so little about it.

I remember, a long time ago, I created a fortune-telling program in BASIC for the old VIC-20 which sold (sort of), commercially. I spent about four months trying to get it right, trying to get it to do what I wanted it to. In the middle of the night I would wake up and think of a new approach for completing just one small aspect of the program. Finally, I got it right (at least as "right" as I was able to). I managed to sell it through *Abacus Software* and make about enough money to pay for my computer.

Well, that was then, and this is now. When I take a look at the calibre of material Abacus puts out, I know my little program would be blown away. All commercial programs of any significance are machine language. From what I can gather about machine language, it's highly precise and complex.

I've downloaded a number of GEOS-oriented programs from Q-Link, ranging from printer drivers to music programs. They are, of course, machine language. There's even one which allows you to change the numbers within printer driver programs so they will work on your specific printer. That's about as close as I come to programming in machine language, and its difficulty level is akin to a child sitting on his/her parent's lap and pretending to drive, while the parent actually does the work.

These programs are free. No payment necessary. Once you pay for the plus-time, that copy now belongs to you.

Some programs are shareware, meaning that you have the option of giving the program author some payment. Typically, information on how much they request is located somewhere in the program via a GEOS "point-and-click", or in the program icon's dialog box, where all that stuff about program size and type, etc. is found.

O.K., it's confession time. I have not always paid shareware authors for programs I've used. No, strike that. The truth is, in the past, I *NEVER* paid any author a dime. Not one penny. And I regret that.

Well, that was then, and this is now. I've decided to pay authors on the basis of use. Whenever I use and like a program I've downloaded, I will pay the author a fair amount, usually what they request, which isn't that much. Hopefully that will be an equitable way to handle the situation.

But the beauty of it is that it's all absolutely voluntary. No one's twisting my arm, no one's holding a gun to my head until I make a payment. And I haven't seen the cement-overshoe salesman for *weeks!*

You have exactly the same opportunity as me. You are in a position to think about program authors, shareware, and fairness, and come up with your own solution as to what you think is right. Then you have the opportunity to act upon your decision. Your decision, like mine, may be modified by circumstances. Since I'm not rich, some authors will have to wait until I have the bucks.

The point is, you don't have to do what I or anyone else says. You can do what you feel is right, based on your *own* feelings and opinions. I encourage you to do just that.

--Dale Beach

3.5" disk from Quick Clips 1
by Bryce L. Tomlinson (Metrix1)

Programming with GEOS 128

Using geoProgrammer with the 128, 80 column support and more!
By Jim Collette

This article is dedicated primarily to GEOS 128 programming (with a few other tricks too!). After over a year of programming under GEOS, I've learned a few things that make life a bit easier for us 128 programmers!

128'ifying geoAsm & geoLinker

First of all, as many of you have already discovered, most of geoProgrammer WILL work with GEOS 128, contrary to what the packaging says. The programs GEOASSEMBLER and GEOLINKER will run fine under GEOS 128 (geoDebugger will crash quite nicely, though). The only thing you have to do is change the 128 flag in their file header blocks, using a sector editor.

To change the 128 flags in geoAssembler and geoLinker, follow these steps:

(1) Boot up your sector editor

(2) Read in the sector of the FIRST directory block. For 1541/1571 disks, it will be track 18, sector 1. For 1581 disks, it's track 40 sector 3.

(3) Search for the name *GEOASSEMBLER* or *GEOLINKER* (Your sector editor does display ASCII data, right?) If they're not in this sector, follow the links and keep reading. (The link is the first two bytes in the sector - it will point to the next sector, or $00 $FF if this is the last one.)

(4) Once you've found the file, scan to the END of its filename. The filename is always 16 characters, and if it's shorter (which they are in this case), the end will be padded with $A0's. Go to the end of the name.

(5) Look at the 2 bytes following the filename. They point to the file's header block. Enter these as the track and sector and read it in.

(6) Go to byte offset 96 ($60) within the header block. For these, it should contain a 128 ($80), which means it won't run under GEOS 128.

(7) If you want to use the programs in 40 and 80 columns, change the byte to 64 ($40). If you only will use 40 columns, make it a zero.

(8) Rewrite the sector.

Do this for both files, and the programs will now work under GEOS 128! (The above process can be done with almost any file.) If you use them in 80 columns, the screen display will be a mess, but they'll run twice as fast, making it a problem you can easily live with! Now your assembler and linker will work with either the 128 or 64!

Adding 80 column support to your programs

It's really not as hard as you might think to give your programs both 40 and 80 column support under GEOS 128. The GEOS 128 Kernal supports a feature called **doubling**. When it encounters an X value (either a .word pixel value, or a one-byte 8-pixel byte offset), it checks the high bit. If it is set (i.e. $8000+319 for 2-byte, or $80+39 for a 1-byte), and the computer is in 80 columns, it will double the X value. This makes it appear in the same spot on the 80 column screen as on the 40. For example, the following would clear the screen (if the pattern byte is 0):

```
jsr i_Rectangle
.Byte 0,199
.Word $8000+0,$8000+319
```

(Even if the value is 0 as above, it's still a good idea to add the doubling bit. This is very important when setting margins or dialog box positions - if other X values will be added to it, they will then be doubled as well. For example, a dialog box def:

```
.Byte SET_DB_POS|1
.Byte 32,127; t,b,l,r
.Word $8000+0,$8000+255
.Byte DBTXTSTR,16,16
.Word string1
.Byte OK,17,72
.Byte 0; end
```

In the above example, it would work ok as is. But if you removed the $8000 from the left boundary (the .Word $8000+0), it would goof up. This is because the X values given in the DBTXTSTR command as well as the 17-byte offset specified with the OK icon are added to the left side to find the true position. If you add $8000 (0) + 16, you get $8000+16, which doubles ok. But, if you removed the $8000 from the left side, you'd have 0 + 16, which leaves 16, which comes out twice as small on the 80 columns. The same is true for the icons.)

Sometimes, you need to double an odd value. To do this, set the third highest bit (I don't think this works with single-byte X values). In the above example to clear the screen, when the 319 was doubled it would only give 638, 1 pixel short of the right side. To get a true 639, use $A000+319. (15th and 13th bits set.)

Big problem!

This may seem too good to be true - just add a $8000 to all your X positions and you've got 80 column doubling! It is - there is a big catch. GEOS 128 will strip off the high bits, so even in 40 columns they will look ok. But GEOS 64 DOESN'T! It will see the $A000+319 and try to plot X position 41279, which winds up being in quite a different spot from the right hand side! The whole screen becomes a mess - even the $8000+0 will confuse it! This problem was not even corrected with GEOS 64 2.0, I believe. The reason it's like this is because the 64 version came out before the 128 - they didn't strip the doubling bits because they never knew they'd have to worry about them!

The best way to do things is with a special "Doubler" subroutine. Call it when you first run your program, and it will scan through a list of X positions, adding the doubling bit if in GEOS 128. It's use requires that you place a label near all the X positions you want to be doubled. Then, place the **address** of the bytes you want doubled into a table, and pass it to the doubler subroutine. It will adjust the values, stripping the high bits if in 40 columns and setting them if in 80. If you had a *DBX1: .Word 319* for example, you'd use DBX1+1 as the byte. The reason behind this is so you can double single-byte values as well. See Listing 1 for the source code for the Doubler routine.

To use it, load r0 with the address of your double table, and do a *jsr Doubler*. The table must be a list of words pointing to the address of the bytes you want doubled, and it must be null-terminated. For example, a table to double the DBX1 value above (and a DBX2 one) would look like:

```
DoubTable: .Word DBX1+1,DBX2+1
.Word 0
```

(I've noticed occasionally when using a long list of .Words all on the same line, geoAssembler will goof up on me - it loses all the values. If you run your program and find lots of weird things happening, try examining the table - if it's wrong, it could be mangling part of your program! Just split the values up onto separate lines. I always put the final 0 on a separate line.) To use it:

```
LoadW r0,DoubTable
jsr Doubler
```

If you have an option to switch 40/80 in your programs (which can be done by flipping the bit in graphicsMode and calling SetNewMode @ $C2DD, more on graphicsMode later), when you enter the new mode, just re-call the doubler routine and it will adjust the values again for you.

graphicsMode problem

There is a variable in GEOS 128 at $003F called "graphicsMode", or sometimes just "graphMode". In GEOS 128, if will be 0 for 40 columns and 128 ($80) for 80 columns. (And $C0 for a future 640 X 400 interlaced screen, though this will probably never appear.) It works fine with GEOS 128 - but again, there is a problem with GEOS 64. It's a random variable in GEOS 64, and because it was never defined as anything, it's not something I like to fool around with. To have one variable that I knew I could count on, I created my own graphicsMode variable.

Just put a semicolon in front of the graphicsMode definition in geosSym or whatever you're using, so the zero-page one will be gone. Then, define yourself a variable "graphicsMode" (or graphMode, whichever you were using before) either with a .ramsect or .psect. Just make sure it won't get disturbed. Also make a variable "GEOS128". They both should be one byte, somewhere safe in your program.

Now, when your program first runs, start it with the "SetGraphMode" routine (see Listing 2). It will initialize the locations graphicsMode and GEOS128. graphicsMode works just like the old $3f one, except it will always be valid, even for GEOS 64. GEOS128 is a flag for 128 mode - 0 is 64, 128 is 128. Now, whenever you need to access graphicsMode, it will be accurate!

Check80 / LoadWD macros

These are 2 macros I've added to my geosMac file to support the 80 column stuff. Check80 is a one-liner, all it does is load graphicsMode:

```
.macro Check80
bit graphicsMode
.endm
```

The only reason I made it a separate macro is because "Check80" is a little clearer when reading code than "bit graphicsMode". It's also faster to type! To use it, follow it with either a BPL (40 columns), or BMI (80) to the right spot. Here is the LoadWD definition:

```
.macro LoadWD dest,value
lda #](value)
ora graphicsMode
sta dest+1
lda #[(value)
sta dest+0
.endm
```

Use this new macro instead of LoadW when you need the value to be doubled. For example, to draw a rectangle:

```
LoadB r2L,0
LoadB r2H,199
LoadWD r3,0
LoadWD r4,319
jsr Rectangle
```

It's nice for places where you can't assign a variable and let "Doubler" do the work.

Switch 40/80

This is quite simple:

```
lda $3f
eor #128
sta $3f
sta graphicsMode
jsr SetNewMode; $C2DD
rts
```

Notice that I used $3f instead of graphicsMode. This is because in this case, you really do want to use the GEOS variable, since it's the only one GEOS sees. After calling this routine, you must redraw the screen, in the new mode. Also you should recall the doubler, if you use it.

Eliminating .dbg files

This is a patch you can do with geoLinker. It can be done on either GEOS 64 or 128, although I can't see why anyone using a 64 would want to. What it does is modify geoLinker so it won't write the debugger files (filename.dbg) to disk. This is fine for me, since I run under GEOS 128 and can't use the debugger anyway. It frees up a bit of disk space for me, especially if I'm working on something big like my Font Editor.

It doesn't actually stop the file from being written, it merely changes its filetype to TEMPORARY. This way, once control is returned to the deskTop, it will automatically delete the file, and you never even see it. The deskTop always deletes any TEMPORARY files it finds. You still need to have the available space free WHILE linking for the .dbg file, as it IS still written.

To make this mod, first follow steps 1-3 of the "128'ify-ing asm & linker" section, looking for the GEOLINKER

filename. Once you've found it,

(4) Find the 2 bytes BEFORE the filename. They will be right after the filetype byte ($83 or $C3), and right in front of the filename bytes. Make THESE bytes your track and sector, and read it.

(5) You are now looking at the VLIR index sector. The first two bytes of this sector should be $00,$FF. Then there should be 12 or so more bytes. They are all track/sector pointers. You want the first one - the one RIGHT AFTER the $00,$FF, at offset $02-$03 within the sector. Read in this sector now.

(6) Read through this chain until you come to the 28th sector. (Just keep reading the link sectors in the first two bytes of each sector to get the next T/S.) The 28th sector should contain some ASCII text somwhere in it "geoLinker .dbg file" and "geoDebugger 1.0", something to that effect. If you don't see the text, try the sector or two before and after it - it may be slightly different if your geoLinker is different from mine. Get the sector in memory so you can edit it.

(7) At byte offset $94 within the sector, you should see the following bytes:

$83,$07,$01,$00

The byte we want to change is the $07. Make it a $0D. It should now be:

$83,$0D,$01,$00

When you're sure it's right, re-write the sector.

(8) That's it! geoLinker's .dbg files will now be TEMPORARY files, auto-scratched by deskTop. Remember to always do these mods on backup copies of the programs in case they don't work the first time! If you want to start creating the .dbg files at some point in time, either change the $0D back to an $07, or even simpler, just re-copy the old geoLinker from your original disk!

geoProgrammer VLIR hint! (for 64/128 users)

I didn't like it when I got geoProgrammer how it made me assign the base for module swapping at some absolute value - the SamVLIR file, for example, always loads in modules at $1000. Not only does this have the potential for wasting memory (say the resident module ends at $0700!), but if you make the resident module too big, you'll overwrite part of it with the overlay modules.

Solution - use a label! Just put the following label at the VERY END of the resident module (this should be the very last label in the whole resident module!):

PageAddress:

Just leave it like that - you don't need to use a .byte after it or anything. Then, load in your linker command file, and change it to look like this:

```
.mod 1
.psect PageAddress
file1
file 2
.mod2
.psect PageAddress
file3
file4
```

Replace the value after your .psect with PageAddress. (Only for the overlay modules, of course!) Since the variable was already defined in the resident module, it will then assemble all the overlay modules at that location. This lets you make best use of memory while also keeping things safe from the resident module getting too big.

That's about it for now. If you have any questions or anything, I can be reached on the Q-Link system as *Jimbob2*. Happy computing!

Jim Collette lives in Pavilion, NY and is a full-blown Commodore freak. He was last seen running through shopping malls shouting "Give me Commodore or give me death!"

Listing 1

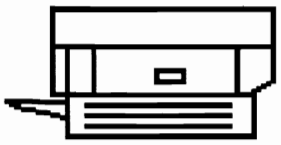
```
;Doubler
;Pass: r0 = Address Table
;Copyright (C) 1989, Jim Collette

Doubler:    lda     GEOS128     ;128 mode?
            beq     9$          ;Nope!
            lda     #127
            ora     graphicsMode
            sta     a0
            ldy     #0
1$:         lda     (r0),y      ;get address
            sta     r1
            iny
            lda     (r0),y
            beq     9$
            sta     r1H
            iny
            ldx     #0
            lda     (r1,x)      ;change it
            ora     graphicsMode
            and     a0
            sta     (r1,x)
            bra     1$
9$:         rts                 ;all done!
```

Listing 2

```
;SetGraphMode
;Copyright (C) 1989, Jim Collette

SetGraphMode:   ldy     #0          ;40 columns
                sty     GEOS128
                lda     version     ;what version?
                cmp     #$13        ;1.3
                bcc     1$          ;lower than 1.3
                lda     c128Flag    ;128 mode?
                bpl     1$          ;nope!
                LoadB   GEOS128,255
                ldy     $3f         ;true 40/80 mode
1$:             sty     graphicsMode
                rts
GEOS128:        .Byte   0
graphicsMode:   .Byte   0
```



Optical Scanning for GEOS? Why Not? *Or: Doing the Impossible on your Commodore...AGAIN!*

By Sean Huxter

Let me start by saying how wonderful geoPublish is. It is one of the finest programs I have ever seen for the Commodore 8-bit machines. It allows you to do things that until its release could only be done on the *larger* computers, like the IBMs and MacIntoshes and Amigas. GeoPublish can do almost everything the bigger boys can, and with the same quality.

This is possible because of geoPublaser, and the ability to attach a Laser Printer to a Commodore 64 running GEOS. However thanks to Jim Collette and PS.Patch 2.0, you no longer have to own a Laser Printer. You can create ASCII PostScript files that you can transfer to another computer connected to a PostScript Laser printer, and get the same output.

But what about Optical Scanning? If the big boys can get laser output, can I scan graphics like the big boys? Well, I did, and here's how:

I gained, through Joseph Dawson, a friend who works with Apple products, access to a MacIntosh attached to an AppleScanner, a fine optical scanner. Together we placed some of my hand drawn graphics onto the AppleScanner and scanned them. We did a few scans at 300 dots per inch, but of course, that resolution is too high for our purposes here. The resulting graphic would be four times the height and four times the width of my original. This can be useful, however, if you want to blow up your graphics. The scanning program allowed for variable density scans, and included 75 dots per inch, which coincides with MacPaint's size, and is similar to geoPaint and most standard dot matrix printers.

Getting the scanned data onto a Commodore 8-bit machine is not difficult. All you have to do is transfer the MacPaint file saved by the scanning program to your 64 or 128 by modem. If you are scanning with an IBM with the capability to save MacPaint files, then you might avail yourself of a program which reads IBM disks, called **Big Blue Reader**. I admit I went about it in a needlessly complicated manner, involving three computers from start to finish, rather than two. I haven't tried Big Blue Reader. Joseph and I saved the MacPaint files on an IBM formatted disk using a MacIntosh program for doing so. Then we took the disk to his Amiga, which can also read IBM disks. We then uploaded the graphic files to a BBS that was being run on his Amiga. I then simply downloaded them from that BBS. Don't knock it. It works.

I then used **Mac Attack** to convert the graphics to geoPaint format. I used **Big Clipper** to cut the graphics into large photo scraps. Since geoPaint can only create scraps the size of its drawing window, that method would not work. As long as the scrap is less than 20K, **Big Clipper** can cut it the size of an entire geoPaint file. From a large photo scrap, you can import your scanned graphics into geoPublish.

We had the option of scanning as line art, or as halftone, so we tried both. If you are scanning line art, (art that is black and white only, no colors or shading) then the best results are obtained by setting the scanner for line art, naturally. We received very good quality digitized versions of my graphics. We also scanned a black and white photograph, and at 300 dots per inch, with MacIntosh halftone patterns, it looked quite good. At 75 dots per inch, however, it was not so great.

We scanned a set of my artworks, then tried a color magazine cover at halftone at 75 dots per inch, and the result was better than I expected, but not fantastic, which is understandable considering we were limited to 75 dots per inch and that obviously means we got less detail than 300 dots per inch (laser printer resolution) but you also have to remember the MacIntosh had to interpret the colors as stipple patterns, which allows for shading depending on the color, but also forces more loss of detail.

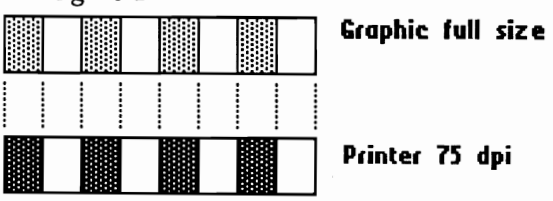
But there is a remedy for the loss of resolution detail if you are planning to output scanned graphics from geoPublish. Simply reduce the graphic in geoPublish, and that will reduce the size, while leaving the graphic intact. The laser printer will print it in its original resolution (provided you don't reduce it to less than one quarter of the original) and the reduced size will make the graphic much clearer and more pleasing to the eye. **But there is a problem here.** When reducing a graphic with stipple patterns you can get **Moire** patterns. At full size you can still notice these interference patterns in the screen dumps used in GEOWORLD wherever the stipple pattern is present. The reason is simple: MacPaint files are 75 dpi, while geoPaint files are 80 dpi. GeoPublish still wants to print full size photo scraps at 80 dpi, forcing the laser printer to squeeze one resolution into the other, causing distortion. More on the technical reasons for this later. These Moire patterns are a problem, but they can be avoided.

It is easy to demonstrate how this problem occurs. Simply draw a rectangle in geoPaint 2.0, filled with the

standard GEOS background pattern, and reduce it slightly. You can see the results. You end up with a plaid pattern nothing like the original. I hate plaid. Reducing a patterned graphic will cause these undesirable patterns to appear. However, since you wish to output to a laser printer which has **300** dpi, all you have to do is reduce the graphic to exactly one half or one quarter. If you reduce a 75 dpi graphic to exactly one half, your graphic will print on the laser printer at 150 dpi. Each pixel of your graphic will cause the laser printer to print a 2x2 array of pixels at 300 dpi. Your half-tone pattern is intact at half the size. You can reduce your graphic to exactly one quarter and your graphic will print at the laser printer's fundamental resolution, 300 dpi. Your graphic will be four times smaller, but will have relative resolution of 300 dpi and be perfectly intact. It will be the finest resolution that can be printed with a 300 dpi laser printer. If you reduce it further still, even the laser printer will lose some of your graphic data.

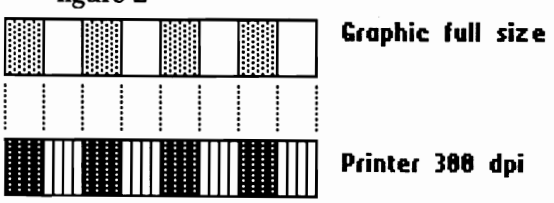
Allow me to explain the cause of these pesky Moire patterns using illustrated examples. Say you have a graphic scanned at 75 dpi. The upper rectangle represents 8 pixels of your graphic, and the lower rectangle represents the printer's resolution. If your graphic is printed at the same size and resolution, you get an exact representation from the printer.

figure 1



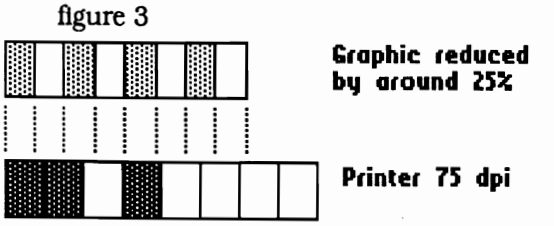
Now, if you print the 75 dpi graphic on a 300 dpi printer, each dot takes up exactly four dots on the laser printer, so again, there is no loss of picture data.

figure 2



You can understand how a 300 dpi laser printer can reproduce a 75 dpi graphic perfectly. Now try to print the graphic (at 75 dpi) slightly reduced:

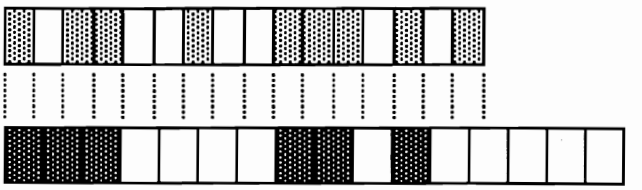
figure 3



See what happened? If the printer is given data which makes up **half or more** of a pixel, then it prints that pixel. In the translation, we end up with a different pattern. Now extend this for a whole graphic of that pattern. It wouldn't look the same at all, would it?

You can see how easily a complex graphic can be distorted:

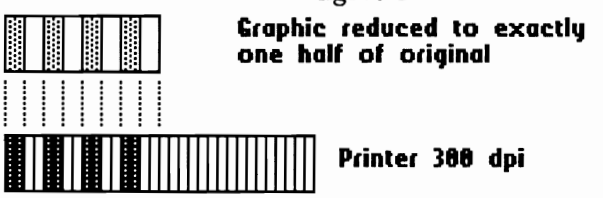
figure 4



The human eye can discern an inconsistency in a pattern instantly. (Ever notice a spot on a sheet of paper, or a slight dent or tear in a window screen?) And Moire patterns jump right out at you in a patterned graphic and it totally ruins its look.

However, if you print a 75 dpi graphic exactly half size on a 300 dpi laser printer:

figure 5



the graphic is uncorrupted. And if you print it one quarter size, the same thing happens. Unfortunately, there is no quick way of ensuring that you reduce your graphic to exactly one half or one quarter. geoPublish does provide measuring tools, so that's a start. You'll still have to use trial and error, I'm afraid. (Editor's Note: see "ruler" desk accessory sidebar.)

You don't have such worries with straight line art, however. At 75 dots per inch, the resolution is already sufficient to make these graphics look very sharp. Even printed at full size on a dot matrix printer, the graphic is very reasonably portrayed. I compared the printouts I got with my Panasonic 1080i with the original, and they were of almost identical size and proportion. Of course, it was blockier, because remember, it was printed at 75 dpi.

But there's nothing stopping you from reducing your line art graphic within geoPublish exactly like you can half-tone images. You are also less restricted in your choice of scaling ratios. You can scale it to any proportion and retain a good replica of your graphic. The result is a much finer graphic, again, reduced in size, while retaining the resolution. The results are wonderful. Computer Eyes can digitize artwork, but it doesn't even **approach** the quality and clarity of an Optical Scan.

Please note, however, that the Moire patterns are

still there, but because of the very nature of line art, they will be almost impossible to notice.

Using the above method I have compiled a disk of GEOS photo albums comprised of hand-drawn scanned clip art. Many of the graphics are clipped larger than the geoPaint window, and are designed especially for use within geoPublish. Write to me at the following address:

40 LeMarchant Rd.,
St. John's, NF
Canada, A1C 2G7

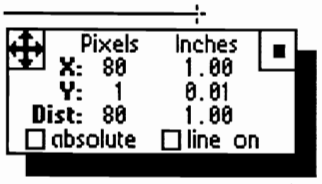
I'd like to thank Jim Collette for PS.Patch 2.0, Nick Vrtis for Big Clipper 3, and Joe Buckley for MacAttack, without which not only would I have been unable to write this article, but I would have been unable to do the impossible on my Commodore... **again!**

Reverse Text in geoWrite!

It is possible to place reverse text into geoWrite documents! The only thing you have to do is open a text region in geoPaint. You write a word and invert it. Then you create a text scrap within geoPaint and paste it into a geoWrite document. That works! You can even edit the reverse text using geoWrite. If you plan to use reverse texts several times, then it is advisable to create a text album with a reverse entry.

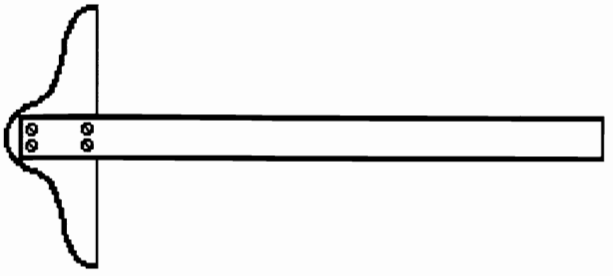
This GEOS trick is from Olaf Schickendanz and was transmitted to GEOWORLD by Florian Muller from West Germany.

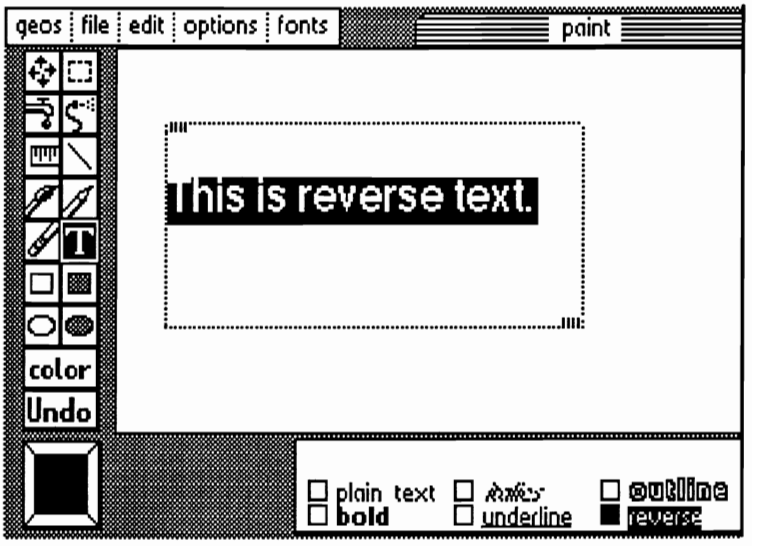
Ruler Desk Accessory



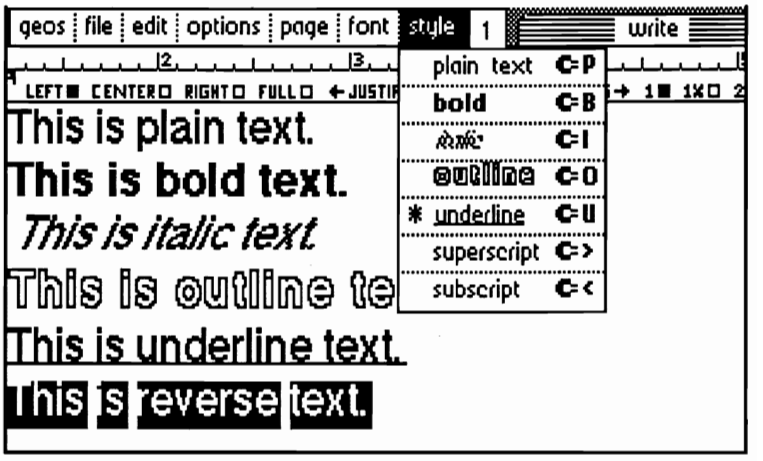
Ruler is a movable desk accessory by Michael Graham. It provides a tape measure line and x and y coordinates similar to geoPaint's ruler. It shows pixel and inches at the same time. You can calibrate the ruler's inch scales to your printer's horizontal and vertical dots-per-inch resolution by entering the values in the file's info box with the deskTop such as 80,72 or 60,72. Use Ruler to accurately measure on-screen images so that they print correctly on your printer.

Use Ruler in geoPublish for scaling graphics for reduction on a laser printer. Reduce a 4 by 2 inch graphic to 2 by 1 inch to make it 50% of original size. Reduce this graphic to 1 by 1/2 inch to make it 25% of original size.





Copy reverse text from geoPaint.



Paste reverse text into geoWrite.

Winter Clip Art on GEOWORLD #23 Disk.

A full page was scanned by Peter Hughes at 75 dpi on an Amiga 500 using ProScan by Gold Disk and a Canon sheet-fed scanner. The 640 x 720 pixel Amiga IFF image was converted to MacPaint format with Macview by Scott Evernden, transfered to a 1581 disk with the 64 Emulator 2 transfer software by ReadySoft, and converted to geoPaint with MacAttack II by Joe Buckley.

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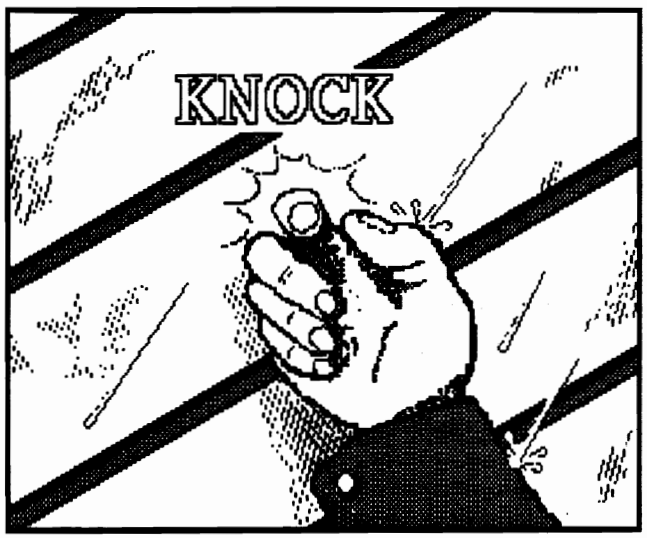
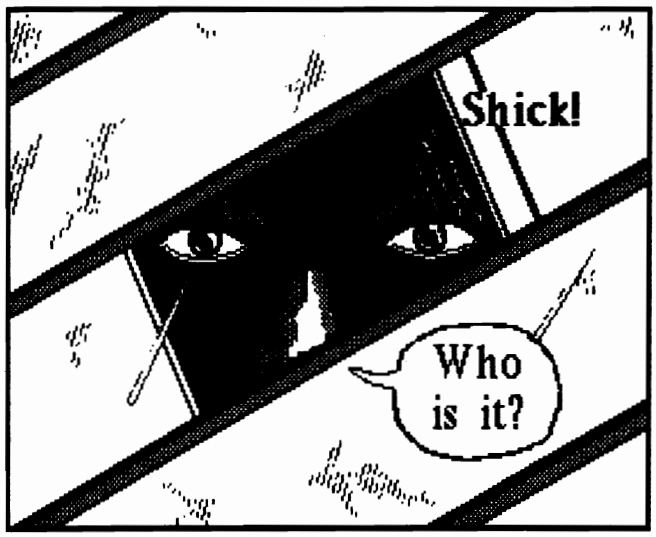
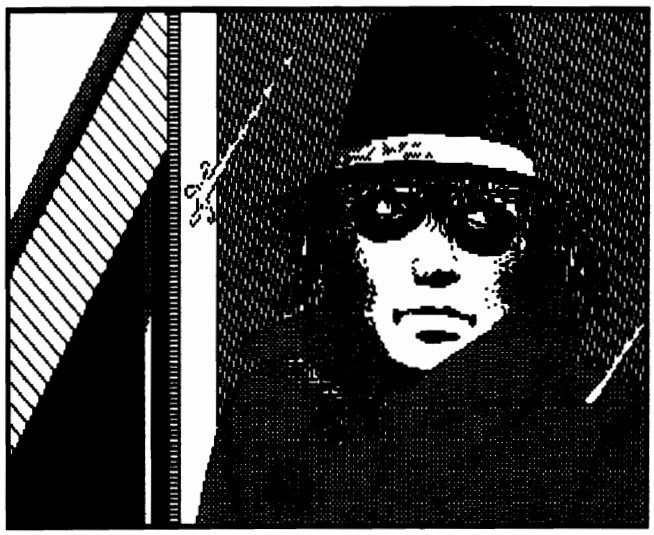
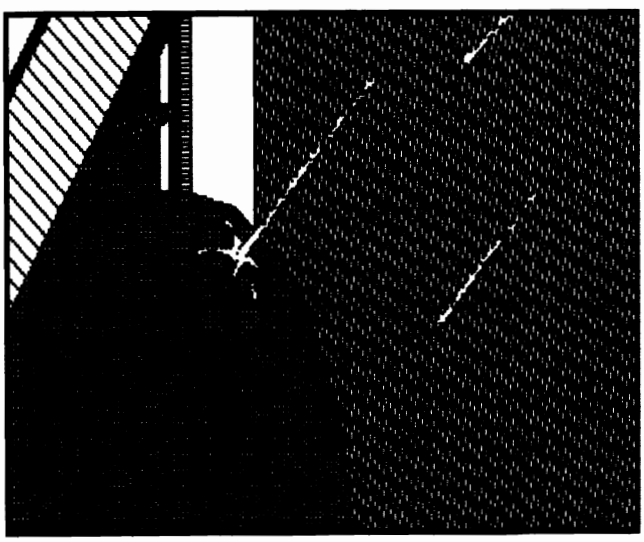
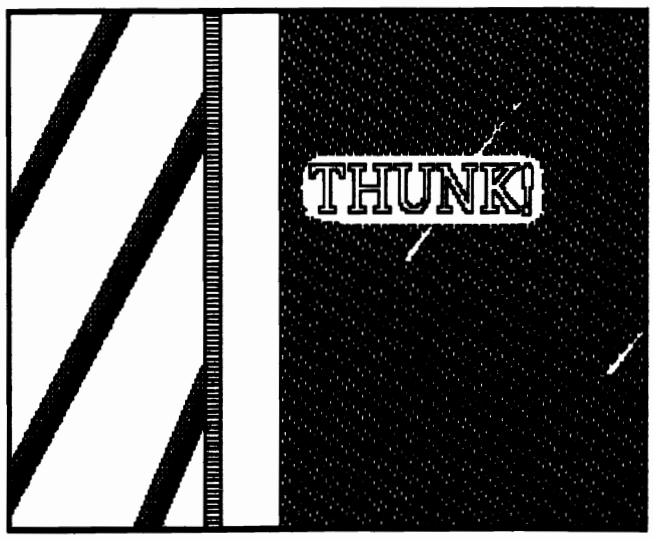




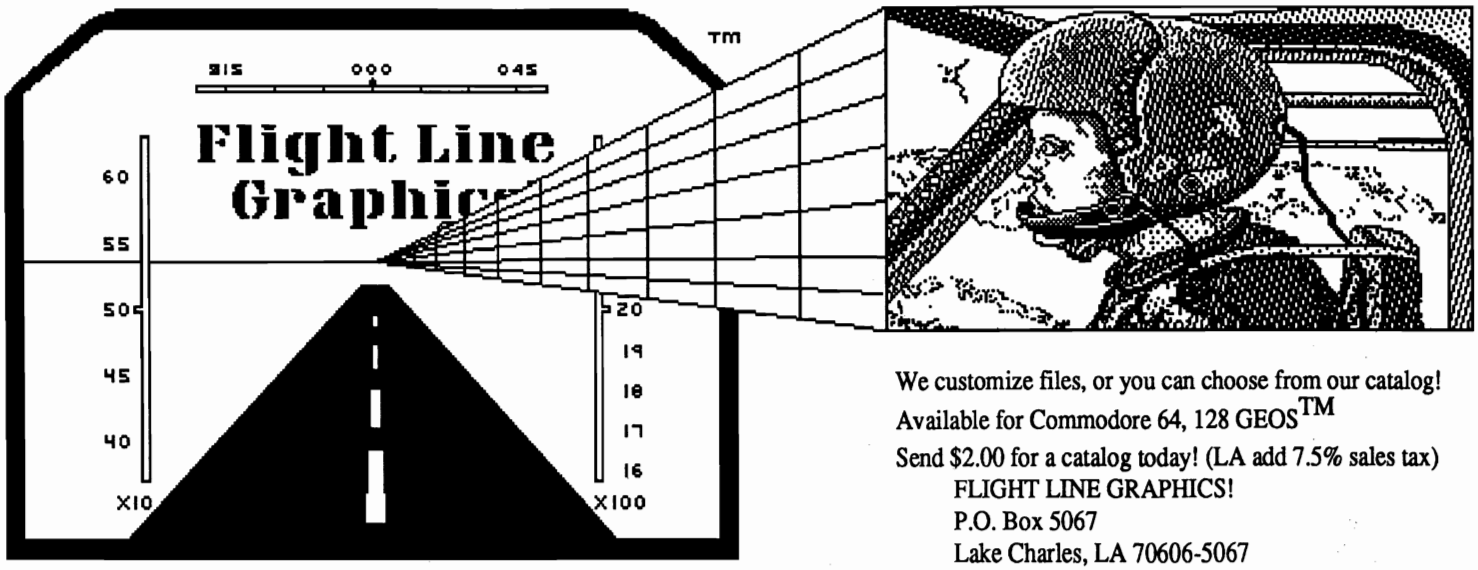






Top of the line. State of the art. Cutting edge. You rich, Otter?
Rich enough.
You may be in too deep this time, Otterman. Be slick, this is RED man.
You're scaring me.
Big man, Otter! Just you keep an eye over your head. My hands are scrubbed, suss?
Right.
God help him, poor sot.
Software's software. What's so all God hot about this cart? Pad looked scared. Better check this out and fence it fast.
But first I think I'll give it a test drive.

Hey, friend, carrying anything burdening?
Put your hands up in the air nice and slow.
Now hand it over.
OK, boys, take it slow. I'll play along.
BLAM
BLAM



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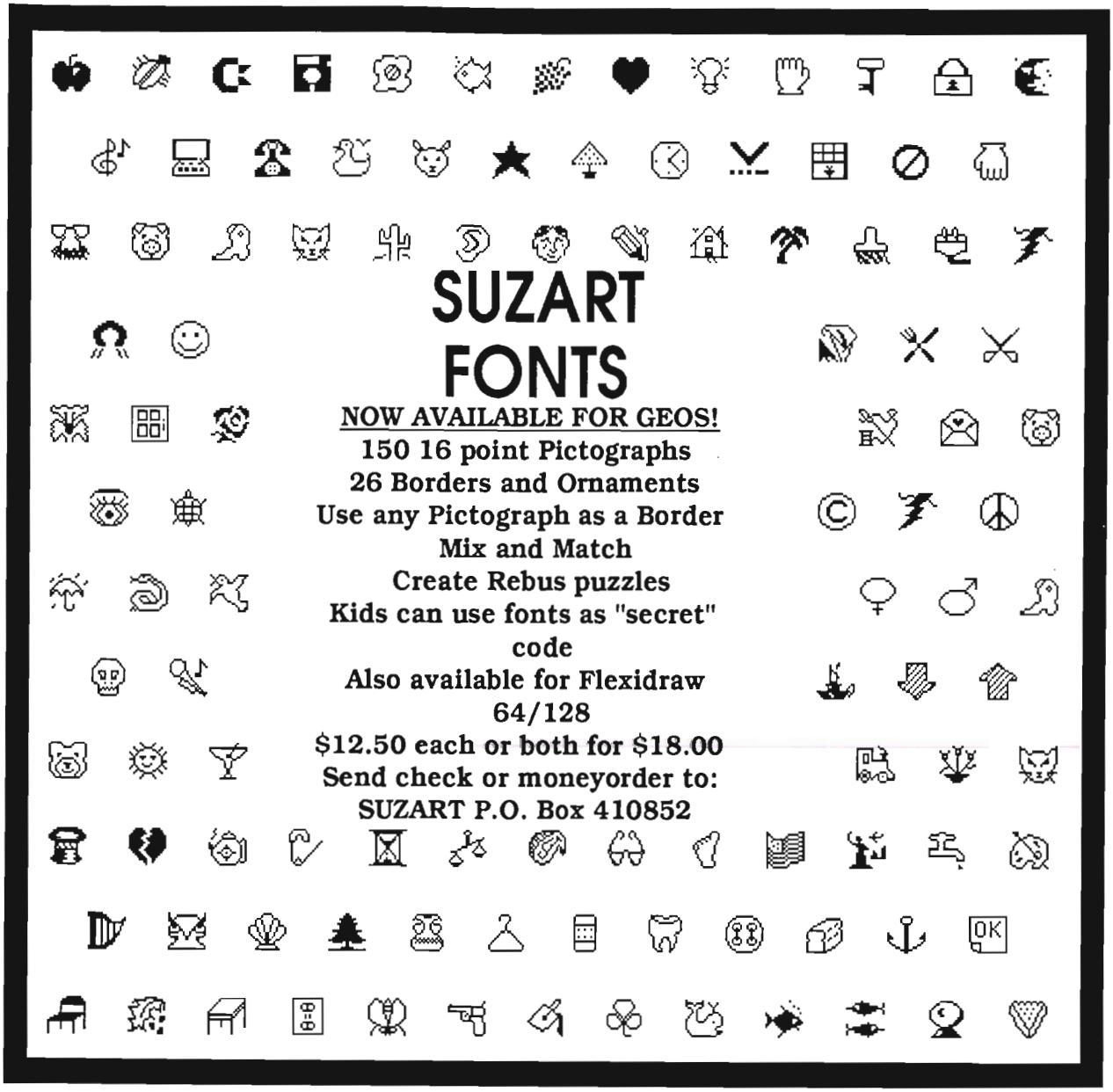

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geoPublish Process Color Reference Chart

How to read chart: Yellow is divided into 6 squares (A-F). A is 0%, B is 25%, C is 50%, D is 75%, E is 85%, and F is 100%. Magenta is divided into varied percentages from the bottom, and Cyan from the right.

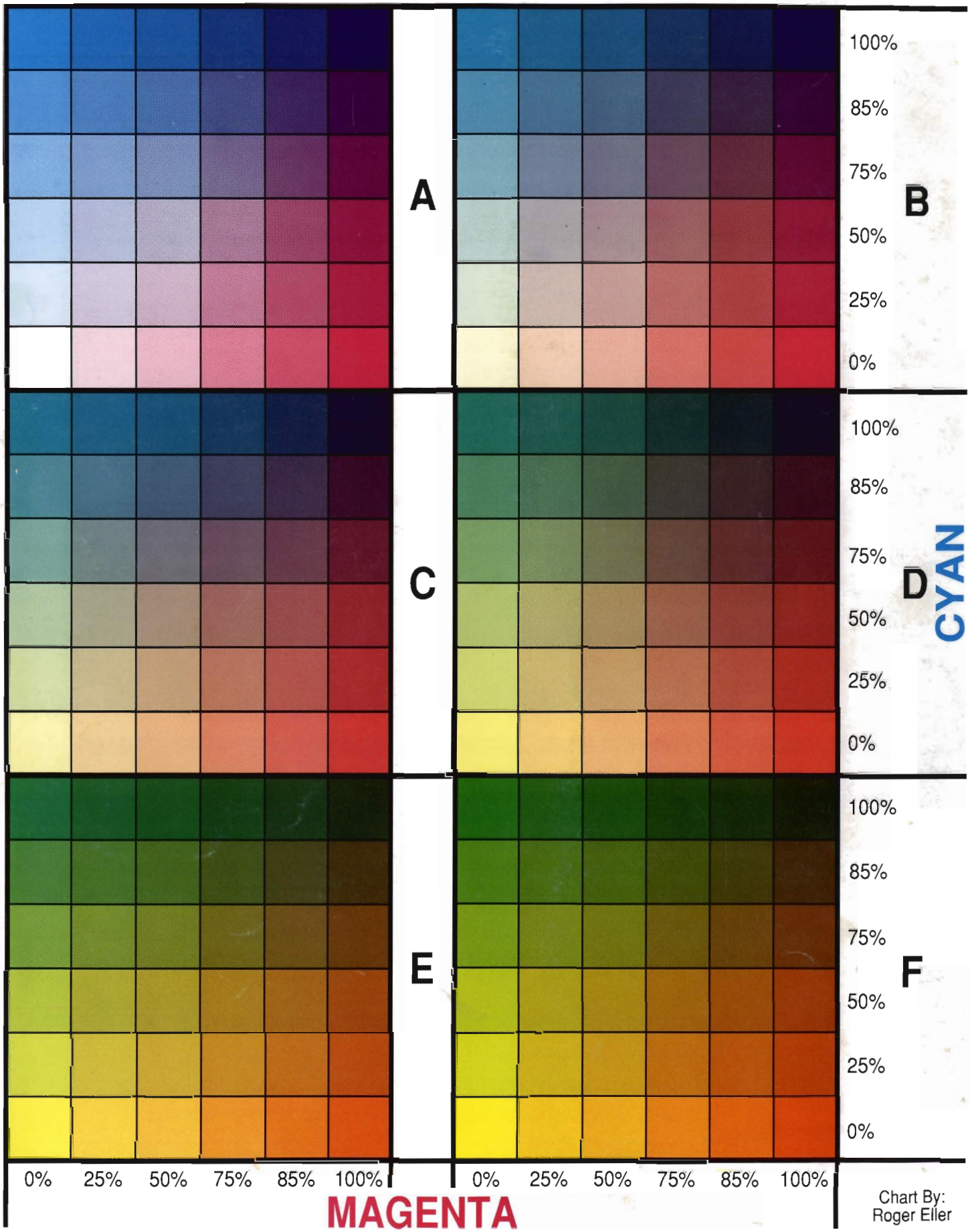

Chart By:
Roger Eller