

TC-128/64

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ARTICLE	AUTHOR	PG
Cover		01
Contents		02
Western Heritage	John Brown	03
More Memory	Craig Taylor	05
FetchIt V2.0 - an update -	Mike Gilsdorf	06
Rumors, News, and Mayhem!		06
Dr.Octal's Q&A Clinic	Staff	09
HI-TECH C Compiler Review	Steve Goldsmith	13
Dr.Octal's Syntax Errors		15
Epson AP-3250 Printer Comments	Charlie Young	16
Writing Tight 6502 ML	Dave Farquhar	18
Letters to the Editor		
3.5 Disk Drive Comparisons	Charlie Young	21
The Copy Protection Curse	Charlie Young	26
Dr.Octal's Sharp Operating Tips		27
Using Different GEOS versions	James Robbins	30
Help In Maintaining Your C=	James Robbins	34
Wordcount V1	John Brown	37
Filecutter V2	John Brown	38
Software Picks		40
Keyboard.BAS	PLACON	43
Drawcomm.BAS	PLACON	45
GEOS Fonts	Roger Detaille	46
Editorial License	John Brown	46
CLASS(Y) ADS		48
Subscription Information		n/a
Legal stuff		17

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questions as we can in a following issue. All letters sent become the property of
TC-128/64.

This magazine is dedicated to my mother to whom I gratefully owe all my
successes and failures.

Western Heritage

By John Brown

Western Heritage by Horse Feathers Graphics is a collection of graphics, borders, and fonts designed for PrintShop Side A or PrintShop Side B. As the name of both the package and company suggests, this collection has an "Old West" theme. The following is a list of the borders, fonts, and clip art contained within the package:

Borders

bo.barb wire x	,bo.barbed wire	,bo.bent wire
bo.blanket	,bo.boot/hat/spr	,bo.boots
bo.brand t90	,bo.brands	,bo.brands ott
bo.carriage	,bo.cattle b	,bo.coveredwagon
bo.cowboy<>	,bo.eng saddle	,bo.english hats
bo.fast friends	,bo.happy guide	,bo.hatboot whip
bo.horses	,bo.horseshoes	,bo.jumper
bo.knots	,bo.log	,bo.messagebrand
bo.morgan	,bo.poster	,bo.poster board
bo.ps brands	,bo.reiner2	,bo.ropel
bo.ropel	,bo.ropel	,bo.runner
bo.ropel2	,bo.ropel2	,bo.stablemate
bo.saddles	,bo.shoe nails	,bo.tracker
bo.stretch hide	,bo.time	,bo.western bits
bo.w riders	,bo.west hat	

Fonts

fo.indian signs	,fo.lg western	,fo.lg wanted
fo.med western	,fo.med wanted	,fo.med english
fo.reward2	,fo.ropel	,fo.sticks
fo.twine	,fo.very english	

Clip Art

annie o key	,apache kid	,appaloosa
barrel racer	,beauty	,billy d kid
brands	,brave	,broken bar o
broken heart	,bronk	,buckboard
bull rider	,butch cassidy	,c wagon
carriage	,cassidy/kid	,chief
clyde	,coverwagon	,cow & calf
cowboy kid	,cowboy	,cowhand
cutting	,dalton gang	,daniel
deadman hand	,dmv needle	,donkey
e boots	,eng saddle	,fancy arab
fence	,flying dia	,half o swt
hay wagon	,horsejockey	,horseshoe
jesse james	,john hardin	,johnny ringo
jumper	,kicker	,lariat
long horn	,ma & foal	,mare & foal

Clip Art

miner	,morgan	,night cloud
noose	,ox	,pancho villa
polo	,pony rays	,pony heart
quantrill	,race horse1	,race horse2
rain dance	,reining	,ribbon
rider	,rope loop	,roper
saddle bronk	,saddlebred	,sam bass
santas pony	,shadow shoe	,shoe nail
show	,skull	,sq dance
stage	,stallion	,sundance kid
team	,w boots	,w pleasure
w face bull	,west saddle	,west hat
wheel	,wild one	,wild horse
will bonney	,wrangler	,y not erp

The package's fonts, borders, and graphics are coordinated to give your final design that Western flavor but some of the graphics could also be used on other projects. For instance the borders of ropes, knots, and poster board could be used to frame other types of cards.

Except for the Indian Signs font all the other fonts, or ones that look like them, can be found in public domain collections and are nothing special in and of themselves. They do complement the theme of the package.

The package devotes a page to the Indian Signs font and how to use it as a secret code. This is might appeal to kids and keep them busy for an afternoon coding and decoding messages produced with the font.

The graphics are nicely drawn and convert well to GEOS too. One of which was reproduced near the review title (converted first to GEOS, then to PC Ensemble).

A nice touch is a tutorial on how to design your own "Reward - Dead or Alive" posters with some background on what the posters really looked like and how they were made.

If you are using the software with PrintShop and you need a package with the Old West flavor you will be pleased with the quality and results. If you are only going to use the converted graphics under GEOS you have to consider that you are only going to use part of the package, the clip art, and that the

resolution and size will be rough compared to bigger hand drawn or scanned images done under GEOS.

Western Heritage comes with a 13 page manual, within a nice 3 ring loose leaf binder, and has all the fonts, borders, and graphics printed out for easy reference. **Rating: B** \$24.95 plus S&H (\$4 USA, AK/HI/APO \$6, Canada \$9, all others inquire) 509.276.6928, Horse Feather Graphics, North 27310 Short Rd, Deer Park WA 99006-9712

More Memory V3.0

By Craig Taylor

Everyone always needs more memory than is available for Basic programming and everyone wishes that they can use that 4k area at 49152 as an additional space for their Basic programs. This short little program below does not give you a full 4k additional but does move the screen and character set to 49152 so that your program begins at 821 instead of 2048 so that you have 1,227 more bytes free. When run it will pause for a couple of seconds to copy the character set. Typing "print fre(0)+2^16" will show you the increased memory.

```
fh 10 b=3:poke53281,0:poke53280,0:poke646,2
bg 11 k=0:tk=4
bp 20 poke56578,peek(56578)or3
ip 30 poke56576,{peek(56576)and252}or(3-b)
cj 40 poke53272,(16*k+tk)
bp 50 poke648,49152/256:printchr$(147);
db 60 forx=0to255:poke49152+x,x:next
gn 61 poke56333,127:poke1,peek(1)and251
ak 62 fori=53248to55296:pokei,peek(i):pokei+1,255:
    pokei+2,0:next
jp 63 poke1,peek(1)or4:poke56333,129
mo 64 sa=821:pokesa,0:pokesa+1,0:pokesa+2,0
jj 65 poke44,sa /256:poke43,(sa and 255)
of 67 new
```

FETCHIT v2.0. - a 1571 Operating Note

by Mike GILSDORF

Here is the fix for the 1571 fast load problem. FETCHIT v2.0 uses the GO64 command to change to C64 mode. After using GO64, the Jiffy DOS manual recommends you send a U0>M0 command to each 1571 drive to place it in 1541 mode. This ensures JiffyDOS will use the fast load routines when loading files. Before issuing U0>M0, you must have a disk in the drive, otherwise a disk error will occur. If you want to avoid inserting a disk and typing U0>M0, add the following lines to your C64 boot program:

```
9000 FOR DV=8 TO 30
9010 OPEN 15,DV,15
9020 CLOSE 15
9030 IF ST<0 GOTO 9090
9040 OPEN 15,DV,15
9050 PRINT# 15,"M-R";CHR$(197);CHR$(229);CHR$(2)
9060 GET# 15, X$,Y$
9070 IF X$+Y$="57" THEN PRINT# 15,"UI"
9080 CLOSE 15
9090 NEXT DV
```

News, Rumors, and Mayhem!

Color 64 News Release about V8.0

One of the best Commodore 64 BBS systems has just been made even better. We, the Color 64 BBS owners are proud to announce the release of version 8.0 of the Color 64 BBS system, the software that has proven to be one of the most versatile and most popular BBS systems available for your Commodore 64. Here are some of the new features added to Color 64 v8.0:

- * Color 64 now supports the use of CMD's SwiftLink RS-232 cartridge for BPS rates of up to 38,400 BPS. Color 64 can also be used with the Schnedler Systems 4.09 MHz Turbo Master CPU, allowing for 4 megahertz operation.
- * Supports variable baud rates of 300 to 2400 BPS without SwiftLink and 300 to 38,400 BPS with SwiftLink. MNP and other error correction modes are supported also when used with SwiftLink.
- * Supports Commodore graphics, ASCII, and even ANSI with graphics and 15 colors. Built in MCI commands allow more flexibility in message formatting.

- * Supports both public and private messages, with a sophisticated editor for creating text messages. Callers can auto-reply to private and public messages. Old e-mail is automatically deleted when it expires.

- * Callers can do uploads and downloads using Xmodem or Punter protocol (Multi-Punter supported) from any number of SYSOP definable drives. Hidden uploads and downloads are supported. Download directories have files dated and kept in chronological order.

- * Callers can view custom text files and on-line help files.
- * Built in self-maintaining online caller log.
- * Real-time clock with date & time stamping on all messages.
- * Daily time limits that are SYSOP definable.
- * Variable access levels including full remote SYSOP capabilities.
- * Chat mode with word wrap.
- * Automatic purging members who have not called for a certain number of days.

- * A fully featured SYSOP terminal mode with upload and download capabilities, plus a buffer and built in phone directory.

- * Color 64 supports the use of Commodore disk drives and other compatible devices, including the 1541, 1571, 1581, ICT Hard Drive, CMD Hard Drive, CMD FD drives, CMD RamLink, Lt. Kernal Hard Drive. You can now use all the LU's from 0 to 9 on the Lt. Kernal, and Color 64 supports full use of subdirectories on the CMD drives.

- * The BBS automatically keeps records of each caller's statistics (such as upload/download credit), as well as information such as each caller's real name, phone number, birth date, and address.

- * The system now includes the popular Color 64 Network add-on using the latest version: 1.26a. Network can be switched in and out easily and when used is fully integrated into your BBS system, allowing Networked public and private messages, as well as file transfers.

- * The programming of the BBS can be easily modified by the SYSOP. A full set of commands, variables, and functions have been made available specifically for programming the BBS system. The overlays are written using the BASIC program editor, so there is no compiling!

* Included with Color 64 v8.0 is a 150+ page manual that fully describes the operation of the BBS system and also serves as a reference manual for programming features. Included in the manual is a complete variables list, plus documentation on all the added commands and functions.

The best thing about Color 64 BBS is the support you receive, both from Color BBS Systems, and the wide network of sysops who all share their mods, advice, and personal experiences on the support BBS, and on GENie. GENie? That's right, Color 64 BBS also has support message bases, and a private file xfer for Color 64 sysops on GENie, which literally makes getting help easy from all around the globe. We also host an RTC on GENie's Commodore 64/128 RT every Monday night from 10 pm - 1 am EST. So if you have a nagging problem, or just want to shoot the breeze, you can bring it directly to us!

More information about Color 64 BBS V8.00 can be obtained by contacting the Sysop of Sonic Temple BBS (Fred Ogle, AKA Betelgeuse, user #2) --1200/14400 bps, phone number 410/285-0428, set terminal to 8-N-1. Or you can send GENie mail to F.OGLE, or Inet/Usenet mail to F.OGLE@GENIE.GEIS.COM or U.S..... mail to: Fred Ogle, P.O. Box 35427, Dundalk MD 21222-7427

Pricing: For Color 64 version 8.00, a 3 disk set with documentation, the cost is \$65.00; to upgrade from Color 64 v7.XX to v8.00, the cost is \$20.00;

Send orders to:

Fred Ogle, P.O. Box 35427, Dundalk, MD 21222-7427

Postage/Handling Charges: US Mail 1st Class \$3.00; (Priority Mail) Express mail (Next Day), add \$20.00. Check or money orders accepted (\$50.00 charge for returned checks) Money orders ONLY on express orders. Check orders allow 4-6 weeks for delivery. Canadian orders - Postal money orders only :)

Commodore gets S:*

On April 29 Commodore International Limited announced that its Board Of Directors had authorized the transfer of its assets to trustees for the benefit of its creditors and had placed its major subsidiary, Commodore Electronics Limited, into voluntary liquidation. This is initial phase of an orderly liquidation of both companies, which are incorporated in the Bahamas, by the Bahamas Supreme Court.

The company reported an \$8.2 million loss for the quarter ending Dec. 31 on sales of \$70.1 million. A year earlier, Commodore lost \$77.2 million on sales of \$237.7 million in the same period. Commodore said financial limits had

thwarted its ability to supply products, leading to weakened sales. One of its new products, the Amiga CD32 video game, had sold poorly in Europe, where the company did most of its business. The company's net worth turned negative in the fiscal year ended last June 30.

Editor's note: on the back side of the TC-128 disk are the latest files with all the rumors and so called "facts" learned so far. As of 940623 there is still no positive news one way or the other about who will be salvaging Commodore and buying its assets.

RIO's new address

RIO Computers/SST has moved. Their new address is:
702-791-5764.

RIO Computers/SST, 572
Tam O'Shanter
Las Vegas, NV, 89109.

A C-1530 in the news!

Yes, the original VIC-20 and C-64 (cassette tape) storage unit was spotted again. This time in a PC magazine and it included a nice B&W picture! If you want to check it out see Computer Shopper, Jan 1994, page 643, in a column by Stan Veit about cassette data storage and whatever happened to it. Editors note: By the way, the C-1530 was my first mass storage device and the C-1520 was my first printer!

Dr. Octal's Q&A Clinic

Q:"Is your newsprint stock of acid free archival quality" - Alan V. Jones, IA

A:The newsprint used for TC-128/64 issues 29-34 was the lightest newspaper available that offered the best opaque surface. I do not know if it was acid free. Though that point is moot since the paper we are using now will probably last ten to twenty years, which is longer than most of our current readers will be using their Commodore computers. Starting with issue 36 we will be trying recycled paper by Hammermill.

Q:Is there any way to expand the on-screen video resolution of the C-128? I have already installed the 64k VDC to get an interlaced resolution of 640x400. Is that the limit? If it is not, then how much would the additional hardware and software cost, that would increase the resolution. Joel Pfauth, MI

A:You already are looking at the practical color limits of the VDC. There were articles in earlier issues of TC-128 about higher resolutions using interlaced graphics (700+ vertical) and you can use it for 80x50 interlaced text.

Q:Is the program "Maidstone Quest" still available from Silvasoft and if so, how much? Joel Pfauth, MI

A:Roger Silva has not answered any recent letters and the graphic Sysop on Q-Link told me he moved onto the IBM world. So I would assume it is no longer available anywhere.

Q:Where can I find Fontmaster 128 (not fontmaster ii) - F.E. Villamor FL

A:It is no longer being made or sold by Xetec. Finding a used copy is about your only hope.

Q:I am looking for a C-128 service manual, either new or used. Would you happen to have one available that you would be willing to sell to me, or would you know where I might be able to find one? - Mark Osterhouse, MI

A:Earl Harvey and Assc. at 1-307-742-3275 stocks them and can usually track down any request for manuals.

Q:How do you download programs on GENie using Dialogue 128 V2.2D "... the manual does not help us first timers." Jim Chance, UT

A:This is the set up I have used in the past. Use the key press C= C and make sure the settings read:

```
col 1 = 80,25,cr/lf,on,xon/xoff,8,delete,none,off,0
col 2 = 2400,0,0,8/none,1,off
col 3 + ascii,stream,0,block,off,7,7,sound,lines,1
```

Try to use Ymodem for downloading because it is more efficient. Once you get the GENie prompt that tells you the file is ready to download, use this key press and these settings:

```
C= D
ymodem,off,default,prg,255
```

and then hit the Run/Stop key to start your Ymodem download. Please note that with text files you might be better off downloading with translation "on" if you want to read them with Dialogue 128 and the file format should be SEQ. I

download everything with translation "off" and as PRG files. I then use ZED128 to read in the ASCII PRG text files and to save them back as C= SEQ files, if I need to.

Q:Help! I want to upgrade my Panasonic printer to a 32k but I can not find the chip anywhere except Tenex and they want \$40+ for just the chip. My friends tell me it is just a common DRAM but no one knows the part number. Can you help?

A:The chip you need should be a 62256, 32x8 static ram with 28 legs. I have heard that this chip or a 43256 can also be used in a Super SnapShot cartridge to upgrade it from 8k to 32k. Not owning a SS cartridge I have not been able to check it out. As for the Panasonic, if you are using GEOS the extra buffer memory for the printer will not do any good because it only works in text mode, not bit map graphic mode. Which is what GEOS sends to your printer. If you are using a text based word processor such as Paperclip III or Word Writer by Timeworks then the buffer chip should provide a boost.

Q:How do I get upgrades to my GEOS products?

A:Call CMD at 1-800-638-3263 or 1-413-525-0023

Q:Do you have available or know where to get a program for golf handicapping, putting greens hits by regulation, fairways hits, and other stats? Richard Forgione, MA

A:No I do not. Maybe another reader can write in and suggest something you can use?

Q:I am in need of a VT-100 terminal emulator software package for my C-64. Do you have one in stock or know where I can get one? - Michael Lee Pagel, UT

A:Your best choice would Novaterm 9.5, which is shareware and available on disk from Parsec. You could also try using Bellterm C-64, which is also available from Parsec.

Q:I have a problem using my 2 meg BBGRAM from PPI. I wrote Mr.Fiset about it two months ago and have not had an answer yet. You are my last hope and maybe you can solve this problem. My setup is as follows: GEOS, a C-64, drive A is a 1541, drive B is RAM 1581, and drive C is RAM 1571. A week ago I changed this to RAM 1581-B. Document on a real drive A and application on

drive B RAM1581. Ever since I have had this BBGRAM and I want to open a geoPaint image on the real drive A (1541), and close it, I get the "Warning! Disk Near Full! Please Move or Delete Files to Continue". So I have to quit to the deskTop and reload the next image.

This was not so bad, but recently I used geoWrite to do a lot of writing. That is when the problem really became annoying. When the document is on the real drive A and the application is on drive B RAM 1581, I may open the document, but I can not make a text scrap, nor may I continue to the next page without having the above message appear. I never get to see the following pages. If I want to continue I have to return to the deskTop.

The only way I can use the CLOSE and then OPEN another document, is to disconnect the BBGRAM and load a regular GEOS boot disk and use two real drives, A and B, both 1541 and 1541-II. This is rather annoying. I have tried everything imaginable to no avail. HELP! I distinctly yell for HELP!!!
Roger Detaille, Canada

A:I posted this question on GENie and the replies back from various people said it is a problem internal to GEOS itself. Paul Murdaugh, the author of "The Landmark Series" had offered an upgrade to geoWrite that allowed it to work properly with the PPI Ram and four drives. But he has since dropped Commodore support and sold the rights to his programs to someone else, James Robbins. If the new owner will be offering these upgrades the news release and details will be posted here in TC-128/64.

HI-TECH C COMPILER REVIEW

By Steve Goldsmith

INTRODUCTION

What is almost 800K, works on the C128 in CP/M mode, generates small fast code, is ANSI compatible and best of all free? HI-TECH C 3.09 (HTC) of course! I just spent the last few months using HTC to write a C128 specific tool box for CP/M. This fine experience allowed me explore the internal workings of the C128 and learn C at the same time. If you want to learn ANSI C, write portable C to run on any platform or explore your C128 like I did then this is your ticket.

FEATURES

HI Tech C uses a single command to compile, assemble and link programs. Also, you can create make files to compile multiple C modules and submit batch files to build entire code libraries.

It does have strong type checking and issues error messages about the constructs in question.

The optimizer creates small fast executable Z80 code.

The complete run time library source, a high quality Z80 macro Assembler, object code librarian, debugger and cross reference utility are included.

CP/M functions to call BIOS and BDOS routines, BDOS data structures, Z80 16 bit port I/O, etc.

GETTING STARTED

First, you need to get the archived files from GENIE or another source. The files to get from GENIE's CP/M RT are the compiler Z80V309.LZH, the documentation Z80DOC.LZH and the run-time libraries LIBSRC.LZH.

Second, unpack Z80V309.LZH to disk. Z80V309.LZH requires about 412K of free space to unpack. You can use CS-DOS 128 to do this or a utility running under CP/M. This limits your development set up to at least one 1581 disk drive or larger disk system.

Third, unpack Z80DOC.LZH and print the documentation. The documentation is about 170 pages long, so you might want to use a laser printer to print it out. Back space character codes (\$08 hex) are embedded in the text to do underlining. It did not look right on the HP 4 I printed it on, so I removed the codes with a text editor's replace feature.

HTC does not come with an editor, so you will have to use one of the many PD, Free ware, etc. text editors. I use the Turbo Pascal 3.1 editor since it allows you to execute programs, then automatically reloads the editor and source file.

If you are a beginning level C programmer then I suggest you pick up a book like Programming In ANSI C by Stephen G. Kochan. I used that book and a few others to learn ANSI C. Please make sure you cover pointers since C relies on them heavily.

Beginning and advanced C programmers will also want to check out my SG C Tools tool box for HTC. It allows full access to the VDC, SID and CIA chips to do windows, high speed graphics primitives, sound effects, music, joy sticks, paddles, 1351 mouse, 1 MHz timers, TOD clock, etc. You can get it from GENIE as SGTOOL13.ARC. My next release (SGTOOL14.ARC) will include the ability to play four bit digitized sound files and view .PCX images.

COMPILING PROGRAMS

Compiling a program is quite simple since you only have to use one command:
C options files libraries

If you have your source and compiler on the same disk you could use: C MYPROG.C

Compiles:MYPROG.C to MYPROG.COM.

When you are ready to make a production version of your program you might use: C -O -X MYPROG.C

The -O option invokes the optimizer and -X strips all local symbol information from any compiled, assembled or linked files. You can also add other libraries to scan with: C MYPROG.C -LC128

The -L options tells the compiler to scan LIBC128.LIB. LIBC128.LIB is the name of my C128 specific library which is not included with HTC.

The compiler passes consist of the pre-processor, syntax checker, Assembler code generator, optimizer (if selected), assemble, link and executable code generation. Each step reads and writes a temporary disk file.

LIBRARIAN

The librarian included with HTC makes it easy to maintain code libraries: LIBR option file.lib file.obj ...

To add or replace files to a library use: LIBR R LIBC128.LIB

VDCIO.OBJ VDCBM.OBJ

Adds or replaces VDCIO.OBJ and VDCBM.OBJ in LIBC128.LIB. The hardest part about using the librarian is the ordering of the .OBJ modules. The linker expects a module defining a symbol to come after a module referencing it. This

is the opposite order in which you place Pascal procedures and functions. See section 14.6 of HTC's manual for more information.

PROBLEMS

Program compile times ran up to 5 minutes long with a stock C128D and 1581. I guess that is why HTC's manual states "A hard disk is strongly recommended". If you plan on using your C128 as the host development system then I would suggest using a CP/M compatible disk accelerator, RAM disk or hard drive. I am running a Z80 emulator under Windows 3.1 to speed up the whole process. This made it possible to compile programs in about 30 seconds. Then I can transfer the .COM files to an Epson QX-10 format disk that the 1571 can read directly under CP/M.

The optimizer locks up when using in-line Assembler with the #asm #endasm directives. It works fine as long as your in-line code resides in the main program. If you need to write Assembler in modules then use ZAS to assemble it. You can create the function(s) in C and use the -S option to leave the Assembler source on disk. You can then modify the Assembler source to suit your needs.

CONCLUSION

HTC is one of the best compilers you can run in any mode on the C128. Do not over look this great product just because it runs in CP/M mode! If you want to see some sample programs created with HTC the check out ZBRAW10.ARC and PCXEM10.ARC in GENie's Commodore or CP/M RT. ZBRAW10.ARC contains a .RAW player that allows you to swap nibbles. A handy conversion utility is included to convert 8 bit .SND files to 4 bit .RAW files. PCXEM10.ARC is a fast VDC PCX viewer. A .PCX graphic can be decoded in under 10 seconds! If you want more information send a message to S.GOLDSMITH2 on GENie.

Dr.Octal's Syntax Errors

A correction to an earlier Zounds! graphic. Please note that this graphic was split in half to fit onto the page. Refer to the original Zounds! article to use it.

Epson AP-3250

Comments By Charlie Young

Positive Features

The Epson AP-3250 is a newer 24 pin dot matrix printer meant for the home and small home business office. Besides the copy machine-like paper tray, which makes printing labels much easier, there are a lot of other features in this small lightweight printer. It comes with several good looking fonts. Super and sub scripts are easy to print. You can print in double high and/or double wide font mode. You can use scale able fonts, but the commands for those are a little more complex than using double size fonts. The street price is about \$200 and the printer can be found using mail order firms and from office supply stores such as Office Max and Staples.

Drawbacks

If you do a lot of bold or double strike printing, the print head will heat up and the printer will pause until it cools down. This does not happen until you have printed several sheets of intense stuff such as graphic laden pages under GEOS, but the wait is not usually that long.

The ribbon is small and does not seem to last as long as the big ribbons in other printers. They are expensive, about \$8 each. Though the cost per page is still much lower than that of an ink jet.

This is a printer with output quality suitable for home users with a light work load. For people that print many pages per day a low cost ink jet or heavy duty dot matrix might be a better choice. I can be reached on GENie using C.YOUNG36

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- 1)The program is copyrighted but freely distributable and you were a subscriber when the issue was first published.
- 2)You have to give a written notice on your first screen or title screen, where this type of phrase can be clearly noted by the user (an example) "Sound Routines from Twin Cities 128/64 - issue #32".
- 3)You have to send us a copy of the program on a disk or upload the program to our library on GEnie. Do not send it by e-mail!
- 4)If there are any kind of charges for the program, either as commercial or shareware software, or if it is a "demo" for a company, contact us FIRST before releasing the software/hardware so we can talk about the licensing fee. This usually will be something small, such as copy of the finished product. If we find out after the fact it will cost you *MUCH* more. Only written releases from Parsec through the U.S. mail with our company stamp imprinted on the contract will be considered valid.
- 5)These routines may not be uploaded to any network.
- 6)These routines may NOT put into ANY disk library collection individual use only - no exceptions!

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Writing Tight 6502 Series Machine Code

By Dave Farquhar

No language in existence can match the balance of speed and efficiency of pure, hand-written machine code. Interpreted BASIC programs are often shorter, and C programs can often come close to matching the speed of machine language (ML), but ML is many times faster than interpreted BASIC, and much more compact than C or compiled BASIC.

The "bag of tricks" possessed by the 6502 family of processors, including the 8502 found in the C-128 is somewhat limited, but its contents are often rather unique and effective. Before I start presenting tricks, let me give you a warning. During the actual coding process, it is best to ignore the majority of these tricks and program traditionally, for the purposes of debugging. Only after you are satisfied with the integrity of your code should you "open the bag," so to speak.

This first trick is older than the 6502 family itself, but still well worth repeating. Never follow a JSR instruction with an RTS. Instead, use JMP.

This only saves you one byte of code and nine clock cycles, but with the limited speed and memory capacity of the 8502, it all adds up. The reasoning behind this is simple: all subroutines end in RTS anyway, so why RTS to yet another RTS instruction, when one could do the job? This will also save stack space, which may or may not matter to your program.

Another old but often neglected trick involves compare operations (CMP, CPX, and CPY) to zero. All commands which affect the Z flag of the processor's status perform the function of a compare to zero already, as a by-product. The actual compare instruction performed depends on the instruction: an INY will imply a CPY #00, while an LDA implies a CMP #00. Because of this, I always comment out such instructions, unless it is a statement such as: LDA #0A:CPY #00.

Do not delete the instructions, however, leaving them in as comments makes your original intent clearer, and easy to find in those rare cases when the instructions are necessary.

This last trick spawns another: loops. They are very common, so consequently, they should be made as efficient as possible. Many people

simply load one register with zero, perform an operation, increment the register, and compare it to the limit. But, because of the above trick, it would be shorter and faster to load the register with the limit, decrement it, and exit via the implied compare to zero.

What do you do when you have two subroutines that are identical except for the first instruction? Consider the two following examples:

```
prpl lda .asc "+"      prmi lda .asc "-"
    inc $d020          inc $d020
    inc $d021          inc $d021
    jmp $ffd2          jmp $ffd2
```

Here are two ways to combine them:

```
prpl lda .asc "+"
    bne scr           ;.A not equal to 0, so jump is
                    ; unconditional
prmi lda .asc "-"
scr  inc $d020
    inc $d021
    jmp $ffd2

prpl lda .asc "+"
    .byt $2c
prmi lda .asc "-"
    inc $d020
    inc $d021
    jmp $ffd2
```

The ".byt \$2c" instruction hides the second LDA instruction from PRPL, but calls to PRMI are unaffected. To hide a one byte instruction, such as a TYA, use ".byt \$24". This method is 5 bytes shorter than the second method and 8 bytes shorter than the first, and only 3 cycles slower than the first.

Nearly all programs need an area of memory to temporarily store their variables. Many simply use a few bytes of memory immediately following their code. However, by using zero-page locations instead (check a memory map, there is a lot of free space peppered around that range, including \$fb-\$fe), you can save at least one byte and clock cycle EVERY time the variable is accessed. This can be a real boon to speed-intensive applications such as graphics, or high-speed I/O routines.

The 65C02 processor has a BBranch Always op code-- a relative branching operation similar to JMP with a limited range but relocatable and requiring one byte less. It is not present in the 8502, but it can be simulated with the branching op codes it does have. For instance, after an LDA, STA, or equivalent sequence, you can safely use BNE as an unconditional jump, unless of course if you had used a 0, in which case, you should use a BEQ. In other cases, I like to simply try what branch operations are available, using a sequence similar to this code fragment:

```
pha
beq +
brk
+ inc $d021
  dec $d020
brk
```

If the branch did not work, the program simply exits to the ML monitor, but if it did work, I am alerted by the change of screen colors before breaking into the monitor. If none of them work, use the sequence SEC:BCS x instead. You lose some speed, and the code is no longer shorter than it would have been with JMP, but it is still relocatable.

This article does not even scratch the surface of what the C-128 has to offer. The MMU has a lot of tricks up its sleeve, and the Z-80 CAN be activated in 128 mode (which offers some interesting possibilities, for instance, it can effortlessly copy an area of memory in only 3 instructions). Hopefully I can cover some more of these in a future article.

Letters to the Editor

o Dr. Octal's Sharp Operating Tip &0022 (issue #35) showed that a SYS 62913 will display a file name of an unknown program on the C64. Similarly, you can do the same on the C128 by typing SYS 62753, provided certain memory locations are still intact.

o Dr. Octal's Sharp Operating Tip &0020 (in issue #35) recommends against creating relative files with record lengths of 42, 58, or 63. Although these lengths can cause troubles for many existing programs that use relative files, the problems could have been avoided if the programs had been written to include the drive specifier with the file name. Also, some programmers report problems using the Pointer command. The trouble can sometimes be traced to an error in many disk drive manuals that fail to show a semicolon at the end of the

command when the offset is omitted. This can cause DOS to interpret the trailing carriage return as an offset of 13. Other problems can sometimes be attributed to failing to "double position" before writing a relative record (Editor's note: I recommend doing that even if you own a 1581 or CMD HD because you never know who might end up using your program on what kind of disk drive). The following program demonstrates how to create a relative file with a record length of 42 (41 characters plus a carriage return), then reads the record back using the Pointer command without an offset.

```
10 OPEN 15,8,15
15 RL=42 :REM RECORD LENGTH
20 OPEN 2,8,2,"O:DEMO,L,"+CHR$(RL) :REM CREATE REL FILE
25 PRINT# 15,"P"+CHR$(96+2)+CHR$(1)+CHR$(0); :REM NOTE SEMICOLON
30 PRINT# 15,"P"+CHR$(96+2)+CHR$(1)+CHR$(0); :REM DOUBLE POINT
35 PRINT# 2,"123456789012345678901234567890123456789012345678901"
40 PRINT R$ :REM RECORD WRITTEN
45 CLOSE 2
50 OPEN 2,8,2,"O:DEMO" :REM RE-OPEN REL
    FILE
55 PRINT# 15,"P"+CHR$(96+2)+CHR$(1)+CHR$(0); :REM NOTE SEMICOLON
60 INPUT# 2, R$
65 PRINT R$ :REM RECORD READ
70 CLOSE 2
75 PRINT# 15,"SO:DEMO" :REM SCRATCH REL
    FILE
80 CLOSE 15
```

Michael Gilsdorf, MA

3.5 Disk Drive Comparisons

By Charlie Young

CMD FD-2000 vs. COMMODORE 1581 --

You may have read reviews for these products, but here is a comparison from someone who actually uses both drives.

Commodore 1581 800 K

3160 blocks free when the diskette is formatted.

If all you want is a lot of disk space and maybe a few partitions on each diskette, then the 1581 is a good value for the money (about \$100 mail order from places such as Software Hutt). Fuzzy about partitions? Here is a quick explanation.

After you format a disk on a 1581, you can create partitions, which subdivides the diskette into complete and distinct sections. Each partition takes 40 disk blocks for the directory of each partition. When you create a partition you specify which range of disk blocks that partition will use for its directory. Once created, the partition size is fixed and can not be expanded as you add more files to the partition. The obvious drawback is that you can run out of space in a certain partition even though there is plenty of space elsewhere on the disk. The FD series has the advantage of using the maximum amount of disk space available on the disk no matter what partition you are using.

1581 partitions can store more files than a 1541 or 1571, 288 compared to 144 on the 1541. Ever try to store more than 144 PrintShop graphics on a 1541? You can have plenty of disk blocks free on a 1541 and you will still get a "disk full" error.

CMD FD-2000. 1.6 Mb

6336 blocks free when formatted - about \$200.

CMD FD-4000 3.2 Mb

12736 blocks free when formatted - about \$400.

FD drives can read and write 1581 disks, but if that is all you want, save some money and buy a 1581. Besides the larger capacity, the big advantage of the FD-2000 is the ability to use MS-DOS style subdirectories. Fuzzy about subdirectories? Let me explain.

After you format a disk (native mode), you can create a sub directory and store files and programs in that sub directory. If you want, you can create subdirectories within subdirectories. Stick with me and I will explain what I mean.

Think of the disk as a drawer in a filing cabinet. You could have a file (sub directory) containing your monthly bank statements, canceled checks, and deposit slips. Within that file you could have an envelope (sub directory) containing one month's statement. If you wanted to, you could have a smaller envelope (sub directory) in each monthly envelope (sub directory) that contains deposit receipts.

Another envelope (sub directory) in each month's envelope (sub directory) could contain canceled checks. As long as there is room on the disk, you can add more files to any sub directory, you can add subdirectories at any time. There seems

to be no limit to the number of files that can be stored in any sub directory. Subdirectories only take 2 disk blocks when created and grow in size slightly as you add more files to the disk There are a lot of advantages to subdirectories compared to partitions. However, partitions may sometimes be better than subdirectories.

PARTITION VS. SUB DIRECTORY

On my FD drive I created a sub directory for Print Shop graphics and added many files to other subdirectories. Eventually I added almost 400 PrintShop graphics to the PS graphics sub directory. By the time I got to writing or reading file #350, it was taking 15 to 20 seconds to find the file, perhaps because the directory was scattered over the disk. If I had been using a 1581 partition, the access time to each file would have been much faster, even for files at the end of the directory. I was able to improve the access time somewhat by copying the files into another sub directory. Since all files were then continuous in that sub directory, access time was better. I was still unhappy with access time and wound up creating a CMD native mode partition for those PS graphics. A CMD partition is not the same as a 1581 partition, and has no obvious restriction on the number of files. CMD partitions are easy to create.

CREATING AND DELETING PARTITIONS

1581 partitions are a bit tricky to create since you have to figure out which tracks are available for the partition, they must be in a consecutive disk block. Deleting a 1581 partition is quick and easy. Do not delete a partition containing files you want to keep. Deleting a CMD FD partition can take several minutes.

MOVING TO DIFFERENT PARTITIONS OR SUBDIRECTORIES

It is easy if you have Jiffy DOS installed, or if you load the DOS wedge. You can just type @cd/dirname. It is a real pain if you have to type open 8,8,15,"cd/dirname" every time you want to change directories.

SIZE / POWER COMPARISON

The CMD FD drive is slightly smaller and lighter than the 1581. The CMD drive uses less power and stays cooler. The CMD is powered by a 9VDC 1A wall power pack, handy for people who want to run their computer system on batteries. The 1581 has an external power supply that looks like a small version of the C64 power supply. It supplies 5VDC and 12VDC.

COMMODORE 1581 DEMO DISK

The disk contains some useful utilities that help with housekeeping. Programs are included that allow viewing the BAM, viewing the Block Availability Map, and almost painless creation of partitions.

CMD FD DEMO DISK

FDTOOLS allows menu selection of many formatting and partitioning options. It includes options for creating partitions that emulate 1541 or 1581 disk drives. That is useful for programs, such as Superbase, that expect directories to be on track 18 for 1541 drives or track 40 for 1581 drives.

FCOPY is an excellent file copier for 2 drives. You can mark which files to copy, and then scratch from the source disk all the files that were copied, which can be used as a move command.

NO DISK EDITOR

Unfortunately most disk editors will not work with FD drives, and no disk editor is included on the demo disk. Also absent is an unscratch program. These programs may be available for an extra charge, but I think CMD should have included them on the utility disk that came with the disk drive.

CMD FD -- JIFFY DOS INCLUDED

CMD FD drives come with Jiffy DOS installed. You can install a Jiffy DOS chip in your computer to give you complete Jiffy DOS capability with a CMD drive. If you tire of waiting on slow disk operations, get JiffyDos. It speeds up all disk operations, unless the software bypasses the Kernel routines. Easy Script loading and saving is fast with Jiffy DOS, but reading the directory is as slow as ever for some reason. Loading even a long directory in BASIC is very fast when using JiffyDOS.

If your main drive will the CMD drive, you will not need to install Jiffy DOS in your 1541 drive. The Jiffy DOS wedge works with all drives whether they have Jiffy DOS installed or not.

CMD FD -- REAL TIME OPTION

For about \$20 extra, you can order your FD series drive with a real time clock chip installed. With that option, all files are time / date stamped. Just as you can load a directory consisting of only certain file types or files that begin with certain letters, you can also load a directory consisting of only files that were created at certain times. You can include a simple directive with any disk or directory command to load or display a directory that includes a certain time and date parameter for any or all files.

COMPATIBILITY

With the CMD drive, you can create partitions which emulate 1541, 1571, or 1581 disks. Any program that does a block read of track 18 sector 1 (track 40 for 1581) will get directory information just like it would with the drive it is emulating.

WHEN A FD DRIVE IS NOT COMPATIBLE

If the program commands the drive to execute code at a certain address within the drive memory, the CMD drive will probably not respond in the expected way.

DISK COMPATIBILITY

A 1581 drive cannot read a disk that was formatted on a CMD drive. There may be an exception to this, but I have found that it avoids wasted time to format 1581 disks on a 1581 drive.

Usually a CMD drive can read and write a disk that was formatted on a 1581 drive. The exception is; if the disk was previously formatted on a CMD drive, it will work fine in a 1581 drive after being formatted in that drive, but it will not work in a CMD drive. You have to bulk erase, or delete all partitions on a previously CMD formatted disk before you format it in the 1581 drive if you want to later read/write on a CMD drive. There must be some directory information that remains from the CMD formatting even if you reformat it on a 1581. The 1581 ignores the leftover information, but the CMD drive does not.

DISK DRIVE SUMMARY

If you need 800K per disk, and you do not need a lot of subdirectories, then buy a Commodore 1581. The 1581 drive with Jiffy DOS installed seems to be just as fast as the CMD drive. If you have more money to spend and you need more subdirectories or more space per disk, then buy a CMD FD drive. If money is no object, buy one of each, buy two of each if you want to!

TIP - DC POWER

This is to nudge you into thinking about alternate power for your computer, not a detailed how-to article.

It is fairly easy to run the C-64 and CMD FD drive on 12 volts DC. You need a TV or monitor that will run on 12 VDC. You need a 5V and 9V regulator circuit. If you supply only 5V to the computer, the sound chip will not work. You could probably run 12V through a 12V regulator to eliminate spikes, but I have not tried it. I compute without sound when the power is off. The 9VDC goes to the CMD disk drive.

BATTERY BACKUP

If you just want to protect yourself from those power outages that last only a few minutes, you can supply only 5V to the computer. The disk drive will not work during a power failure, but the computer memory will be saved until the power comes back on, or the battery runs down in case of an extended power outage. I use NiCad batteries through a 5V regulator circuit, but a 6V tractor or motorcycle battery would probably work just as well as the NiCads. You can get a switchable-voltage power pack at the discount store, and use that to trickle charge your battery. I can be contacted on GENIE as C.YOUNG36

The Copy Protection Curse

By Charlie Young

WHAT TO DO WITH THOSE DISKS THAT DO NOT LOAD

Some of the heavily protected commercial software had nice disk labels. It would be a shame to throw them away. You could;

- A. Create a work of art by skillful arrangement of several disks on the wall.
- B. Not an artist? If the disk is unusable due to loose oxide (turns your drive head brown and causes it not to work until cleaned), be sure to mark the disk in some way so that you will not put it into the disk drive again.
- C. Take all your GEOS disks that never worked and send them to Berkeley Softworks with a letter explaining that you would never consider buying GeoWorks or any other Berkeley product after the way they teased you with C64 software that would not work. Send only the disks and it will cost less than \$1 in postage. I don't know what to do with the manuals. Same thing with any other software company that shows up trying to sell IBM software. Let them know that C64 users have long memories. Just because you upgraded to an IBM does not mean that you forgot about companies like Berkeley who sold useless disks. People at those companies thought that customers were buying disks, while the customers thought that they were buying productivity. The big boys should be told that disappointed customers do not come back for more disappointment.
- D. Ask around to see if your friends have an uncopyprotected version of the software. Get a copy. If you still have your original worthless disk, and if you want to pretend that you are using it, do a swap. Here is how. Cut a small

corner off the bottom of the original disk. Use a razor blade to cut the entire bottom open -- like opening the bottom of a letter. Take the magnetic media (round plastic floppy thing) out and throw it away. Do the same thing with the unprotected disk except discard the shell only. Put the floppy media from the copy in the original shell. Put a small strip of paper along the bottom of the disk shell, and tape the bottom closed. The strip of paper is to prevent the round floppy disk from touching the sticky tape. Now you have a copy that works, but it does not look like a pirate copy.

I find it odd that the software industry can focus on how much money they are losing to pirates, but nobody seems to care about how much customers have spent on software that does not work. It seems that until I wised up and stopped buying the stuff, about half my purchases were duds because of the heavy copy protection or crazy impossible installation schemes like GEOS. A friend of mine read the GEOS book and highlighted the installation warnings and still was not able to get it to work. I admit that I was probably half asleep and may not have followed the instructions to the letter. Either way, it was still a crazy and ill-conceived scheme. I doubt that it stopped the pirates, but it certainly stopped many a legitimate paying customer.

I have bought some commercial software since 1988, but I made sure that it was not copy protected before the purchase. The cost of a phone call is better than paying for some copy protected garbage that will not load. I would like to read your tips and comments here. Please share. I can be contacted on GENie as C.YOUNG36

Dr. Octal's

Sharp Operating Tips <tm>

Tip #&0037

Subject: Saving ASCII from Easy Script

From: Charlie Young

Reset Easy Script and select printer 1, then select (S)erial. Load your document and F1 O C S. Type a file name at the prompt. The resulting file will be ASCII with formatted text the same as you would get if you printed the file. If you do not want leading spaces set the left margin to 1 (lm1). If you do not want blank lines at the page breaks, set the text length to 66 (tl66) which makes text length the same as page length.

Tip #&0040

Subject:Using a 2nd disk drive with Easy Script

From: Charlie Young

Load Easy Script from drive 8. If you want to load and save files on drive 9, type "9" instead of "D" when prompted for Tape or Disk on the setup page.

Tip #&0041

Subject:Using the Final Cartridge III with JiffyDOS

From: Charlie Young

Final Cartridge offers some neat BASIC enhancements including backwards scrolling and search and replace. However, if you are using Jiffy DOS, you will not be able to save your BASIC program that was so easy to write or change -- unless you first type "kill" to turn the FC off. The BASIC program will still there and can be saved in the usual manner.

Tip #&0042

Subject:Saving protected programs on 3.5 diskettes

From: Charlie Young

We have two C-64's at our house. One computer is connected only to a 3.5 inch drive. I had to find a way to run software from that drive. Although not all software can be converted to 3.5 inch, some can. The solution is to use the Jason-Ranheim Capture II cartridge. It works with all software that loads the program in one chunk. It works by freezing the program and saving memory to disk. Some programs that constantly access the disk drive cannot be used with a 3.5 inch disk. Print Shop will not work. Multiplan will work.

Tip #&0043

Subject:Saving money on software

From: Charlie Young

When I bought a C-64 about 10 years ago, the software was inexpensive, especially compared to software for other computers. The low price made it possible for me to buy some software that I wanted, but really did not need. Now some C-64 software is priced higher than similar IBM software.

Solution 1: Don't buy it unless you are sure you need it. Even if I want or need it, anything over \$40 is too much for me.

Solution 2: Find a dealer who has a version that is not the very latest and greatest. Example: I wanted Big Blue Reader to convert IBM files to C-64 files, but the \$50 price advertised by SOGWAP was just too high. I found an earlier version from Tenex for about half the price. It does everything I need to do, and the price was right.

Tip #&0044

Subject: Lasting longer ribbons and better looking print

From: Charlie Young

Use a good copy machine to copy your important printouts. Turn the contrast up some if your ribbon is getting light. The copy should look darker than the original, and the dots will not be so noticeable, virtually invisible if you use a 24 pin printer or 8 pin with double pass fonts.

Tip #&0045

Subject: Saving money on paper

From: Charlie Young

Get a printer that has a sheet feeder like the Epson AP-3250. You load paper into a tray just like a copy machine, except you can only put about 30 sheets at a time into the tray. Collect old paper that has been printed only on one side and use the blank side for your stuff. If there is any question about which side is up, use a marker to make a big X on the back side of the paper. Look at local data processing companies or where you work for scrap paper. Many companies just throw away that paper without shredding or recycling it. Most of it has been used to print data only on one side and can be reused on the second side.

Tip &0046

Subject: Reformat Documents with Paperclip III

From: John Brown (JBEE)

Sometimes I receive documents hard formatted to 40 columns or with hard returns (CHR\$13) at the end of every line which makes it hard to import into another word processor and to use proportional text. My solution has been to use Paperclip III's unformat feature and the search and replace features. Here are the steps.

First, go through the document and put at least two or three blank lines in between major sections of the text, such as paragraphs. If you have program listings or columns you do not want unformatted then use the range command to specify the range in which you want the unformatting to take place. This will also hold true for the next step once the range has been optionally set.

Second, unformat the text with C= U and answer the prompts that follow it. Now use the F-keys to move to the bottom of your document or the range you unformatted and use the cursor keys to move up through the text until you reach the top of the unformatted text. This helps to respace the lines.

Third, tidy up the document automatically without manually editing the text by using Paperclip III's search and replace features. You will notice unsightly spaces between words throughout the unformatted text and it is hard to read. Press C= @ and then answer the first string to search for with 5 presses of the space bar. When it asks for the replacement text press the space bar and the return key, then answer "y" to more text to replace and follow this procedure until you are replacing two spaces with one space in the search/replace function.

For documents that were hard formatted to 40 columns you might want to start at ten spaces and work your way down to 1 space. If you want to have two spaces after every sentence then do a search and replace, after the above procedures, by replacing every "period and one space" with a "period and two spaces". Works for me!

Tip &0047

Subject: Saving data (text) files with Paperclip III

From: John Brown (JBEE)

When saving a previously loaded file in PCiii using CONTROL Z (data files) instead of CONTROL S you are prompted for the filename and have to type the name back in *unless* you use this tip. Type CONTROL Z and then at the filename prompt <SHIFT><RUN/STOP> and the default filename is put on the command line. With the autoscratch on this can save you a lot of extra typing! Just make sure if you are using linked documents (NX:filename) that you are not scratching the next document you want to load in and edit!

Using Different GEOS Versions

By James Robbins

These procedures work fine for most system set-ups. They may not work fine in yours, especially if you have modified any of your devices. So, a word of caution, back up any and all of your files BEFORE you change your set-up. You use this set up at your own risk.

*For RamDrives or RamLinks with 1MB of RAM (or more)

*GEOS 64 version and GEOS 128 version refer to V2.0, Gateway versions refer to V2.5 or less.

* Prepare your Ramdrive or RamLink, as per CMD's manual, for GEOS operation.

CAUTIONS...:

* There is a limit to the amount of boot partitions you can have, which is 6 (six). This is a limitation of the hardware and software that CMD uses for GEOS.

* All of the partitions you use for GEOS must be the same type of partition. Example...If your #1 partition is of the 1581 emulation type, then all the rest must be of the 1581 emulation type. The same applies to Native Mode partitions. Note: If you intend to use the standard GEOS deskTop in any of the partitions, then they all must be 1581 emulation type partitions. This is because CMD has not made standard GEOS compatible with Native Mode partitions. If you want to use Native Mode partitions for GEOS then you must boot-up with Gateway.

* If you use the standard GEOS set-up, then you must purchase the program called "geoMakeBoot", sold by CMD, in order to create boot partitions. Gateway users already have the program called "MAKEBOOT" to create boot partitions for Gateway.

* Another limitation of the hardware/software is that you will always end up in the #1 partition, no matter from which partition you boot. It is a simple matter to change back to the intended partition after the boot-up has finished, with either the CMD MOVE, RAM MOVE, or QuickMove program. This will not affect which version you booted up in as long as you follow the multi-boot set-up procedures (that will follow these cautions).

***WARNING *** DO-NOT copy any Auto-Execute files that are SPECIFIC to any one GEOS version, to any of the boot partitions you create. This will crash your boot-up process.

Example... If you have an auto-execute file that only works with 128 GEOS, and NOT with 64 GEOS, you CANNOT have it on your #1 boot partition and visa-versa. A 128 Kernel Patch is a NO-NO! If you have an auto-execute file that works 100% with either 128 GEOS or 64 GEOS, then you CAN have it on your #1 boot partition (and visa-versa). DB GetFilesV1.1 is 100% O.K.

SET-UP

Boot-up GEOS in the version you wish, and open the #1 partition. A suggestion would be the version you will use most often. Create a boot partition as per the geoMakeBoot or MAKEBOOT instructions. When it is created, copy these following extra files to the #1 partition :

Desk Top, one of each you will use in the other boot partitions.

CONFIGURE, one of each you will use in the other boot partitions.

Input Drivers, one of each you will use in the other boot partitions.

If using Gateway, then copy the Gateway deskTop, Launch and Disk Driver files.

Your #1 partition should now have the basic boot files for the partition and the additional desktops, configures and input drivers, for each of the other boot partitions you wish to make.

AGAIN - Do not place any auto-execute files in the #1 partition that are specific to any one version of GEOS that you will use, see the earlier warning.

Now you can shut-down and Boot-Up the next version of GEOS for which you wish to make a boot partition. Example... If you made the #1 partition a boot for GEOS 128 and you want to make your #2 partition a boot for GEOS 64, then shut-down and boot up GEOS 64. Follow the same procedure as you did in making the #1 partition a boot partition, and do it in the #2 partition. Copying the same "extra files" after the boot partition is created is optional. You need only do that if you intend to use this partition with the other deskTop versions, and you need only the deskTop type files. Then you follow this same procedure for each boot partition you create for a maximum of six boot partitions.

SAMPLE SET-UP.....

```
(I use a Flat 128 computer and a 16mb RamLink as Drive B)
Partition#1      BOOT      1581 emulation partition GEOS 128 V2.0
Partition#2      BOOT      1581 emulation partition GEOS 64 V2.0
Partition#3      BOOT      1581 emulation partition GATEWAY 128 V1.5
Partition#4      BOOT      1581 emulation partition GATEWAY 64 V1.5
Partition#5      BOOT      1581 emulation partition DUALTOP
                                     128/GATEWAY V1.5
Partition#6      BOOT      1581 emulation partition DUALTOP
                                     64/GATEWAY V1.5
```

The rest of the RAM I use for non-GEOS programs and GEOS work partitions. This set-up will vary according to your available RAM and personal preference.

RamDrive

Since RamDrives only come with a maximum of 2mb, these will be limited to only (two) 1581 emulation type partitions. A much better suggestion for RamDrive users, is to always boot with Gateway. This way you can use the Native Mode partitions and vary the size of the partition to suit your needs. This set-up is necessary if you only have 1MB of RAM available to you.

Sample set-up is:

Partition#1	BOOT	512blk Native partition	GATEWAY 128
Partition#2	BOOT	512blk Native partition	GATEWAY 64
Partition#3	work disk	(whatever RAM is left)-blk Native partition	

Another Sample:

Partition#1	BOOT	1581 emulation partition	GEOS 128 V2.0
Partition#2	BOOT	1581 emulation partition	GATEWAY 128 V1.5
Partition#3	BOOT	1581 emulation partition	DUALTOP 128
Partition#4	BOOT	1581 emulation partition	geoShell
Partition#5	BOOT	1581 emulation partition	C-128 QuickTopV6.0
Partition#6	BOOT	1581 emulation partition	C-128

TopDesk (USA version)

USING-IT...First the hard-road, as they say, so you will get an idea of what has to happen. Run the RamTools program and change the default partition to the one you wish to boot up. Then enter the RD or RL, move to that partition number and boot as normal. Use this procedure each time you boot up.

C-128 users make sure you FIRST set the 40/80 key to the proper screen mode, or you will get a garbled (or non-existent) screen. Please note I have successfully skipped changing the default partition number, but that will not work on everybody's system.

Now for the easy way

In the GENie GEOS libraries and also in the message boards under RD/RL help & tips, are a few programs that allow you to change partitions/change default partitions and load a program from a small basic program when you turn on the 128 computer. The best and simplest one was uploaded by CBM HOWIE. It is a short basic program that puts up a menu from which you can make your selections. It will do all you require and is usually less than 2K at it's height of complexity. There are more programs you can use in GENie's libraries, you will just have to do the searching for yourself. :)

CAUTIONS

If you use Native Mode partitions with Gateway and DualTopV3.0 as an alternate DeskTop, you will have two disadvantages when running under DualTop desktop. You will not be able to validate a disk and the drive button will not show the type of drive you are using. None of these will harm your system, but they will be inconvenient if you are not aware of them. Otherwise, DualTopV3.0 will perform with no problems at all. Note ... It will work 100% okay with 1581, 1571 and 1541 emulation partitions. The reason why? Dualtop does in fact pick up all the system parameters from the Kernal version of Geos it was booted from, but the DualTop application has no provisions in itself to operate with all of them. Future versions and patches of DualTop will include these provisions .

Special variation for Native Mode users

If you have the room in your RamDrive or RamLink you can bypass the above limitations if you create a 1541 subpartition or 1581 subpartition on the Native Mode partition. In this manner the 1541 subpartition or 1581 subpartition will have all the advantages of a 1541 or 1581 emulation partition, with the added advantage of being able to have the partition's size equal to a Native Mode partition!

Some examples:

1581 emulation partitions have 790K bytes available for GEOS, but a 1581 subdirectory on a Native Mode partition can have 1590 Kilobytes (or more or less) available on it. The choice will be yours! The tradeoff is, don't you hate these tradeoffs, "only" if you use an alternate desktop. You will have problems copying files from the sub partition to a real disk drive. Most alternate desktops make no provision for this, so you will have to use one of the copy applications to do the copying for you. Examples would be Maverick's GEOS file copier, or a better one would be Jim Collette's Mini-Desk desk accessory.

Help in Maintaining Your C128/C64

By James Robbins

Ever since CBM left us with little support, and now have left us all together, it has become very important for us to keep our computers up and running, and in the best possible condition. Our computers were designed to live a long life, but just like anything else, if left alone it will go away. According to Murphy's Laws of electronics, it will leave you when you need it most.

What Murphy did not tell you, is that with very little effort you can maintain your machine so it will live a longer life. As we all know, heat is any electronic device's worst and mortal enemy. A dusty build-up on electronic components, disk drives and keyboards, can not only create extra heat, but clog moving parts such as keyboard keys, motors, etc.. Unless you live in a plastic bubble, you have dust. It does not matter if you wipe off your machine every day, it still gets inside.

If you have a computer fan cooling off your machine it makes the dust build up even faster, turning a very good idea into a bad one if you do not clean your machine. If you smoke, it becomes even more critical to clean your machine. Tar build-up from cigarette smoke is "heats" best friend, not yours. Editor's note: You should see what dog hair does to a computer or disk drive!

Now sit back and ask yourself "will these cleaning measures really do me any good?". The answer is a big "YES". Maintenance and cleaning are always effective.

Here are a few tips on what you can do to help avoid a trip to a repair shop:

1) Get one of those mini computer vacuum cleaners and on a daily basis vacuum the keyboard, disk drive and other devices. That is your first line of defense! Limit the amount of dust that will eventually creep into your machine. Dust does not take a break, it is always building up.

Disconnect your power, open up your computer once a month, and use the mini-vacuum to clean off the dust build up inside. If you own a C128D with a cooling fan inside, it becomes mandatory to clean inside as the fan will draw in even more dust and most people do not have filters on their fans.

2) Keep the screen on your monitor clean as per the instructions it comes with. A build-up on the screen makes the tube hotter, decreasing its life.

3) Speaking of cooling fans, that is one of the best ideas you could ever have! They are cheap enough for everybody to use. A breeze across the computer components keeps it running cooler and will make it last longer. A breeze across your monitor, the hottest device you have, will make it last longer. A word of caution here though, where you place the fan can effect performance, so you have to use some common sense and test where it will not interfere with your computer or screen picture. Do not put a fan on top of the monitor! The monitor

tube is magnetic and the fan will not only distort your screen it may damage the alignment of the electron beams inside. Place the fan a few inches from the back of the monitor and let the breeze blow across the set.

Use the same precaution for the computer. If it was not designed to contain a fan, then do not put one on top of it! Place it a few inches away where it will not cause you any problems and let the breeze blow across the vent slots. Placing a cooling fan to blow a breeze across your power supplies will keep them cooler and make them last longer too. For owners of older 1541 drives this is almost a must. CMD Hard drive owners can also buy miniature sized fans to be placed inside their hard drives.

4) Cleaning your disk drive with a commercial cleaning kit should be done every 100 hours of use. Disks are made with a magnetic material that does in fact come off the disk and eventually builds up on the read/write heads. You should also open up your disk drive and use the vacuum in there too. Dust and residue from the floppy disks will build up in the drive too. It is needed even more than cleaning inside the computer, as the magnetic residue combines with the dust and creates a conductor. It is sort of like creating a bunch of new wires where they were not intended to be!

While you are in there, make a quick inspection and look for loose screws or connectors. I had a recent experience with a 1581 where a screw worked itself loose, attached itself to the motor drive, and was happily spinning itself around causing random short circuits until it finally crossed a main and destroyed the motor drive circuit. I never heard any noise, I just had an occasional file write/read error.

There, that wasn't so bad now was it? With a small effort you can keep your machine happy and cool for a long time to come. If your machine does break down, before you spend a small fortune taking it to a repair shop, which are nowadays a few and far between, search the message boards on GENie's Commodore 64/128 RoundTable. You will be surprised at what seems to be a big problem is sometimes only a little one. There is a lot of good help on those message boards! I can be reached on GENie as J.ROBBINS16

WORDCOUNT-V1.BAS

By John Brown

Someone on GENie had requested a program that counted the number of words in an ASCII document so I threw this short basic program together for them. This will work in either C-64 or C-128 mode. C-128 users should add the fast statement to the start of the program. It is not the ultimate word counting program, just something that is "good enough" and works. Use the TC-128/64 C-64 or C-128 checksum programs to type this program in.

```
jp 10 rem save"wordcount-v1.bas",8
do 20 rem ---- do not use opt level ii on compiler - will cut the
      dates short
jd 30 rem ---- because the value is <32768> values
gc 40 :
kh 50 printchr$(147):printchr$(14):rem clear screen and set to
      lower case
ep 60 print"
do 70 print"          WORDCOUNT-v1.bas
mj 80 print"    <c> 1993 by Parsec, Inc.
pg 90 print"Parsec, Inc. PO Box 111
ed 100 print"Salem, MA 01970-0111 USA "
oh 110 print:print:print:print:print
cb 120 rem get file parameters -----
      -----
ip 130 input"drive with import data";dn:      rem device number
nc 140 input"      import data file";sf$:      rem file name
go 150 print:print
mc 160 rem open data file to read -----
      -----
ll 170 open15,dn,15
ha 180 :gosub 470
om 190 :if su=64 then goto 510:rem enter routine that prints
      errors
ih 200 :
lh 210 sf$="0:"+sf$+"",s,r"
cm 220 open2,dn,2,(sf$)
be 230 :if su=64 then goto 510:rem enter routine that prints
      errors
kp 240 :
mb 250 i=0:
bo 260 w=0:
      length
ej 270 :
ed 280 get#2,a$:
eh 290 :gosub 470:
fl 300 :if su=64 then goto 510:rem enter routine that prints
      errors
```

```
kd 310 : rem to end file 64=eof
bf 320 b=asc(a$)
ib 330 if b =32 and w=0 then goto 280:rem no words yet
ab 340 if b =32 and w>0 then 390:rem end of the current word
mk 350 print"working ! ": rem let user know program is
working
mj 360 print " ": rem by up a cursor & erasing
the text &
nl 370 print"": rem position up for 'count'
text
ha 380 w=1:goto280: rem start or continue word
count
dj 390 print"": rem position cursor up for
print
ne 400 i=i+1:print" word count is:";i:rem increment word var.
counter 'i'
en 410 w=0:goto 280: rem print results and
zero out the
gi 420 : rem variable wd which
keeps track of
co 430 : rem how long the word is.
pd 440 :
cp 450 rem disk status and errors -----
-----

ah 460 :
oe 470 su=st: rem remember file status
jm 480 if su = 0 then return: rem return if okay
hi 490 if su = 64 then return: rem return if end of
file
md 500 print"file - error ! code";su
eb 510 close2:close15:goto 550: rem print errors
ee 520 :
hc 530 rem ----- yes or no prompt- to quit or to read
another file ----
id 540 close2:close15
pn 550 input"(Y)es or (N)o - read another file?";y$
mh 560 if y$="n" then end
fa 570 if y$="y" then 50
lh 580 goto 550: rem jump to part that
prints
cl 590 rem the opening screen
```

FILECUTTER-V2.BAS

By John Brown

This is a short C-128 program I wrote to split large ASCII files into moderate sized chunks Paperclip III could handle. C-64 owners should change the DOPEN, DCLOSE, and FAST statements so it will work in C-64 mode. Use the TC-128/64 C-64 or C-128 checksum programs to type this program in.

```
fc 10 fast
oe 20 printchr$(147)
pm 30 print"file.cutter.bas-version 2.0"
mk 40 print"copyright 1993 by"
fi 50 print"parsec inc po box 111
lk 60 print"salem ma 01970-0111 usa"
de 70 print:print"genie=jbee":print
ip 80 print:print"from twin cities 128 - issue #36"
bh 90 print:print:print
jo 100 :
dj 110 input"input device number";ip
fh 120 print:input"input file to print";f1$
ae 130 print:input"output device number";op
op 140 print:input"output filename to save";f2$
kk 150 print:input"split file at every 'xxx' # of lines";ln
cc 160 print:input"length of lines for output file";ll
ed 170 print
oo 180 :
im 190 dopen#8,(f1$),d0,onu(ip),r
ac 200 :
dk 210 f4$=f2$
lj 220 f3=f3+1:f3$=str$(f3):f4$=f2$+f3$
kk 230 dopen#9,(f4$),d0,onu(op),w
ck 240 :
ah 250 for j = 1 to ln
fh 260 :a$="":b$=""
dc 270 : get#8,a$
hn 280 : su=st:rem remember file status
md 290 : gosub 400
pk 300 : if su=64 then410
cm 310 : if a$ <> chr$(13) then b$=b$+a$:goto320:else 330
dp 320 : c=len(b$):if c < ll then 270:else 330
dc 330 :print#9,b$
kk 340 printj:next j
jj 350 :
ei 360 dclose#9:printf2$
kn 370 :
ga 380 goto 210:rem start another file
mb 390 :
ck 400 if su=0 or su=64 then return
lb 410 print"end of file - ok - end":dclose#8:dclose#9:end
mn 420 print"file - error !!!!!"
od 430 print err$(er);el;" ";su:dcloseonu(ip):dcloseonu(op):end
```

Software Picks

By John Brown (JBEE)

This column is where we spotlight exceptional files, either public domain, shareware, or "demos", from both the past and present. They range from the simple basic program to the full blown application. These programs are located on the back side of the TC-128/64 companion disk. It is (ONLY) the back side of the companion disk that is okay to copy for a User Group disk library or to pass around to friends. Please remember the front side of the TC-128/64 companion disk is commercial software and may not be duplicated except for archival purposes.

GENie file #: 9148

Filename: GEOPCX.SFX

CBM BLKS: 43

Computer: GEOS

Author : Jim Collette

Type : Shareware \$10

It converts geoPaint files to IBM .PCX files. It is mainly used by people that want to move their BSW geoPaint pictures to GeoWorks Ensemble (GeoDraw). Though it does have other uses because almost any paint program on any other computer platform supports the .PCX format in some way. This file also handles geoPaint color conversion.

GENie file #: 14399

Filename: ARC250-4A.SFX

CBM BLKS: 148

Computer: C-64

Author : Parsec

Type : Shareware \$20

Compresses any type of file. GEOS files have to be converted to PRG or SEQ files. The best program to do this is to use Convert 2.5.

GENie file #: 14398

Filename: ARC250-4B.SFX

CBM BLKS: 131

Computer: C-64

Author : Parsec

Type : Shareware \$20

Compresses any type of file. GEOS files have to be converted to PRG or SEQ files. The best program to do this is to use Convert 2.5.

GENie file #: 6957

Filename: CONVERT-V2.5DA

CBM BLKS: 61

Computer: C-64/128 GEOS

Author : William Coleman

Type : freeware

Convert 2.5 made to function as a Desk Accessory. To convert to GEOS format, load and RUN it is a BASIC program : LOAD"CONVERT-V2.5DA",8 It will create a CONVERT file on drive #8 and drive #8 must be a 1541/71 for the original creation of the file. Once in GEOS format the CONVERT program will work with any GEOS drive.

GENie file #: 8148 GENie's CP/M RT

Filename: Z80V309.LZH

CBM BLKS:

Computer: CP/M

Author :

Type : Copyrighted but freely distributable

This is the file reviewed by Steve Goldsmith in this issue. Because of its size we could not include it on the disk. To get the program order Parsec's Public Domain 1581 disk "CP/M 1581 01". This is a 1581 disk formatted in native mode, you will need a transfer program to move it to a CP/M formatted disk.

GENie file #: 8147 GENie's CP/M RT

Filename: Z80DOC.LZH

CBM BLKS:

Computer: CP/M

Author :

Type : Copyrighted but freely distributable

This is the file reviewed by Steve Goldsmith in this issue. Because of its size we could not include it on the disk. To get the program order Parsec's Public Domain 1581 disk "CP/M 1581 01". This is a 1581 disk formatted in native mode, you will need a transfer program to move it to a CP/M formatted disk.

GENie file #: 8149 GENie's CP/M RT

Filename: LIBSRC.LZH

CBM BLKS:

Computer: CP/M

Author :

Type : Copyrighted but freely distributable

This is the file reviewed by Steve Goldsmith in this issue. Because of its size we could not include it on the disk. To get the program order Parsec's Public Domain 1581 disk "CP/M 1581 01". This is a 1581 disk formatted in native mode, you will need a transfer program to move it to a CP/M formatted disk.

GENie file #: 14993

Filename: MCGOTTIFANT

CBM BLKS: 106

Computer: C-64

Author : unknown

Type : freeware

This demo of an elephant is really cute and runs for several minutes.

GENie file #: 22966 *STARSHIP* AMIGA RT

Filename: AMIGAWORLD.NEWS

CBM BLKS: 10

Computer: text file

Author : Amiga World

Type : news release

Statement and facts relating to Commodore's Chapter 11.

GENie file #: *STARSHIP* Amiga RT

Filename: CBM-LIVES.TXT

CBM BLKS: 19

Computer: text file

Author :

Type :

More Commodore "news"

GENie file #: *STARSHIP* Amiga RT

Filename: INTERNET RUMORS

CBM BLKS: 17

Computer: text file

Author :

Type : More Commodore "news"

Genie file #: *STARSHIP* Amiga RT

Filename: SAMSUNG2.TXT

CBM BLKS: 9

Computer: text file

Author :

Type : More Commodore "news"

Genie file #: 14435

Filename: ZZAPDEMO

CBM BLKS: 109

Computer: C-64

Author : The Vibrants

Comments: freeware demo with cool music and talking heads.

KEYBOARD.BAS

By PLACON on Genie

This is a short C-128 program, with rotating colors, that draws a C-128 system, using BASIC 7.0, on the forty column screen. C-64 users with a BASIC extension such as Simon's BASIC should be able to adapt this program. Use the TC-128/64 C-64 or C-128 checksum programs to type this program in.

```
il 10 rem dsave"keyboard.bas"
pf 20 rem -key board 128- placon 1993
lj 30 rem copyright 1993 by parsec, inc - pobox 111 - salem ma
01970-0111 - usa
kj 40 rem from tc-128/64 magazine issue 36
gm 50 :
lf 60 color0,1:color4,1:color1,2:graphic3,1
hm 70 draw1,20,130:box1,130,190: :fori=1to3::draw 1,24+a,135:
    a=a+29:box1,22+a-5 ,142:next: draw1,25,130:box1,35,133:
    draw1,107,135:box1,127,142:draw1,24,146
gk 80 box1,104,180:draw1,40,182: box1,85,188:draw1,107,146:
    box1,127,180:forx=1to3:draw 1,29+c,135 to 29+c,135+7::
    draw1,58+c,135 to 58+c,135+7 :
nk 90 draw 1,87+c,135 to 87+c,135+7:draw1,111+c,135to111+c,
    135+7:c=c+6:next
bd 100 :draw1,109,148:box1,125,153:draw1,109,156:
    box1,125,161:draw1,109,164:box1,120,169:draw1,122,164:
    box1,125,178:draw1,109,172:box1,120,177 ::
pc 110 forx=1to3:draw1,113+d,148 to 113+d,148+4:
    draw1,113+d,157to113+d,157+4:d=d+4: next:draw1,113,164:
    box1,117,169:draw1,117,173to117,176:
e=0:remkeyboardllines
```

oa 120 draw1,26,148:box1,102,153:draw1,32,156:
box1,97,161:draw1,26,164:box1,94,169:draw1,36,172:
box1,88,177:rem big keys

kk 130 draw 1,26,156:box1,30,161:draw1,99,156:
box1,102,161:draw1,96,164:box1,102,169:draw1,26,172:
box1,28,177:draw1,30,172:box1,34,177:draw1,90,172:
box1,94,177

cg 140 draw 1,96,172:box1,98,177:draw1,100,172:box1,102,177
:remlinesdown key board

lb 150 forx=1to15:draw1,28+g,148to30+g,148+4:g=g+5:next:
forx=1to12:draw1,37+h,157to38+h,157+4:h=h+5:next:
forx=1to13:draw1,28+j,164 to 30+j,164+4:j=j+5:next

ag 160 forx=1to9:draw1,40+k,172to42+k,172+4:k=k+5:next:
draw1,30,5:box,118,110:draw1,33,10:box1,115,107:
draw1,39,20:box1,108,98

cm 170 draw1,21,129to25,115 to 25,115to125,115 to130,130:
draw1,21,128to129,128:

nb 180 color1,11:draw 1,128,82to132,65to150,65to158,120to142,
120to132,65:draw1,128,82to138,135to142,120:draw1,138,135
to155,135to158,120:circle1,142,129,1,1,1,1

gg 190 circle1,146,129,1,1,1,1

ih 200 draw 1,150,125 to 155,125 to153,132to149,132to150,125 to
150,129 to 153,129

pc 210 draw1,142,158to150,158to152,170to144,170to142,158to141,
163to142,173to144,170 to142,173to151,173to152,170:
draw1,144,158to145,162to148,162to147,158

df 220 circle1,137,158,8,16,10,100:circle 1,141,127,8,
16,200,263:circle1,125,135,8,16,10,80

fn 230 color1,15: fory=1to3:circle1,7,185,6+y,6+y:next:
draw1,5,185to7,185to7,33to5,33to5,185:circle1,6,30,4,4:
draw1,7,37to26,40to7,53

mj 240 rem -----

he 250 rem paint -----

lk 260 color 3,3:paint3,26,131,1

kb 270 color2,16:paint 2,22,132,1

ee 280 color3,12:paint3,120,155,1

on 290 color3,12:paint3,50,154,1

ei 300 color3,16:paint3,28,127,1

ag 310 forx=1to3:draw0,28-x,119+qto121+x,119+q:q=q+2:next:
rem:thisbacklines

gi 320 color2,16:paint2,32,10,1

lh 330 color3,12:paint3,38,20,1

ln 340 paint3,142,133,1:paint3,140,80,1:paint3,130,80,1:
color1,12

jc 350 forx=1to3:draw0,134+x,70+1to145+x,70+1:l=l+2:
next:char1,35,10,"c=",1

aj 360 color1,6:paint3,148,160,1:color2,5:paint2,7,30,1:
color3,6:paint3,19,40,1:color3,3:paint3,10,185,1:color3,
15:paint3,6,40,1:color2,15: paint2,6,182,1:

bp 370 char1,2,5,"c=",1

```
pi 380 color1,12: w=2:do:fori=3to11:char1,10,i,"
      ",1: :char1,10,4,"c o m m o d o r e",1:
      char1,15,7,"c=1 2 8",1 :char1,12,10,"1 9 3",1:
od 390 char1,33,23,"128/64":char1,35,22,"tc": sound3,
      62500/i*2,5,2,52600/i,50:ifw>16thenw=2
na 400 color1,w:w+1 :next:loop
```

DRAWCOMM.BAS

By PLACON on Genie

```
cg 10 rem dsave"drawcomm.bas"
nn 20 rem commodore sign - placon 1993
lj 30 rem copyright 1993 by parsec, inc - pobox 111 - salem ma
01970-0111 - usa
kj 40 rem from tc-128/64 magazine issue 36
gm 50 :
pc 60 rem - c= for commodore- placon-aug8.93
dh 70 graphic3,1:color0,1:color4,1:color1,2
jh 80 circle 1,85,99,85,99,180,360:circle1,85,99,66,64,180,360:
      draw1,85,0to85,35:draw1,85,163to85,197 : a=72:d=3
df 90 draw 1,90,40+dto155,40+dto125,85+dto90,85+dto90,40+d:
      draw1,90,40+ato125,40+ato155,85+ato90,85+ato90,40+a
il 100 color3,7:paint3,84,01,1 :paint3,91,44,1:color3,3:
      paint3,91,113,1:repaint
oj 110 do:fori=2to13
ke 120 color1,i:char 1,10,12,"commodore":color1,i+1:
      char1,25,22,"twins cities":sound 1,500*i*7,1
em 130 color1,i+2:char 1,28,23,"128/64":color1,i+3::
      char1,29,24,"1993":next:loop
am 140 end
```

GEOS FONTS

By Roger Detaille

The fonts shown above can be found on the commercial (first) side of the TC-128/64 disk. Both the normal and mega (supra) fonts are included for each typeface. The first one is Uhura. The second one is Patricia. The third one is K'Ehleyr for all you space warriors. Use Convert 2.5 on the second side to convert back to GEOS usr files.

Editorial License

by John Brown

I have been asked a few times why the editorial page is at the end of the magazine so many times and not at the front where it usually is in many other publications. The reason why is not that I am at a loss for words, I love to talk and gab so that is not a problem. It is because how much of the editorial to cut, is determined after the articles are fitted into the issue.

I suppose the most significant thing to talk about would be Commodore going out of business. Though this really is not much of an issue in terms of support for Commodore C-64 or C-128 users because there has not been any from US Commodore for quite some time. Do we have to worry about all the major suppliers leaving the market in droves now that Commodore has "bit" the byte bucket? Hardly, all the major software houses and suppliers left at least a year ago and all the rest left when RUN magazine stopped publishing.

What do we, as 8 bit computerists have to look forward too? For software, not much. Retreads, the legal duplication by third parties of software abandoned by the original vendors, software from one man software houses, etc. In short, do not expect new top flight software packages such as Buck Roger from SSI. The market is still here for good quality programs, there is just no way to reach the 100,000 users that a major software house needs to justify an investment in a computer platform. The good news is some of the best software ever was developed years ago and is still available. No matter who writes it, surpassing a program such as Paperclip III would be no easy matter. So if you want top quality software you better buy it now while it is still available new or used. Same with any books or magazines you need.

How about hardware? CMD is still in business for the time being so no need to worry there yet. Monitors and mice are probably going to be the hardest things to locate new or used. Replacement parts for the computers themselves are getting expensive and with Commodore's future in question I would expect that to get even tougher. Investing in a spare machine to use for spare parts is the best idea. Proper upkeep of your computer system, including surge protection is probably the best investment you can make at this point.

Who does Commodore going out of business hurt the most, besides the shareholders? It mainly hurts the Amiga users since they were still making new Amigas and there was still some sort of new software market. It certainly puts a squeeze on companies such as NewTek that depend on the new hardware for their products. NewTek builds "video toasters" that many TV shows use for Amiga based graphics and special effects. Such shows as Babylon 5, Robocop, etc.

Why did Commodore fail and what would I have done that Commodore did not? I will leave those answers for the expert armchair admirals since I have never ran a billion dollar company, though I can say I have never caused one to fail either! All I can say is if I had a billion dollar company I probably would be tempted to incorporate it in the Bahamas too. For the rumor mongers some of the Internet text about Commodore is included on the B side of the disk. There were a lot of good text articles from the Amiga libraries on GENie, such as the Newsbytes stories, that I would have liked to include. I was not sure of their copyright and distribution status so I had to exclude them. Oh well. Every summer I like to do at least one exciting or interesting thing that is worth remembering or retelling to some unwilling victim. This year it will probably be seeing a few cool movies or maybe some hang gliding lessons. I will let you know.

A stylized, handwritten signature that appears to be the initials 'JB' or a similar monogram, written in a cursive, looped style.

John Brown, Editor
GENie=JBEE

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FOR SALE HARDWARE

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