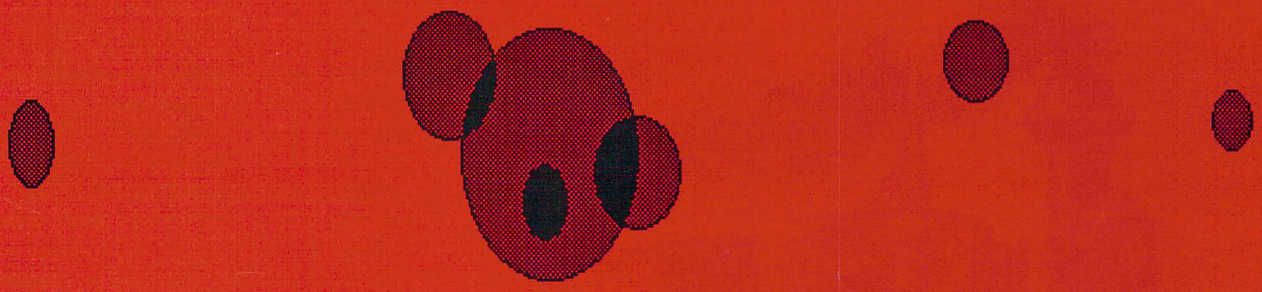
August 1993
Vol. 2 No. 7 Issue 11

U.S.A. $1.75
Canada $3.00

dieHard

the Flyer for commodore 8bitters

Special Public Domain Issue!



INPUT

Reviews

Rarities

Basic BASIC

PAPSAW

Q & A

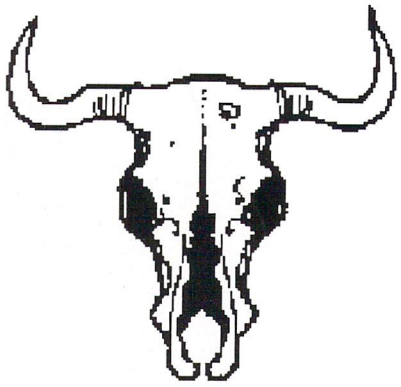
DOS & Don'ts

and more...

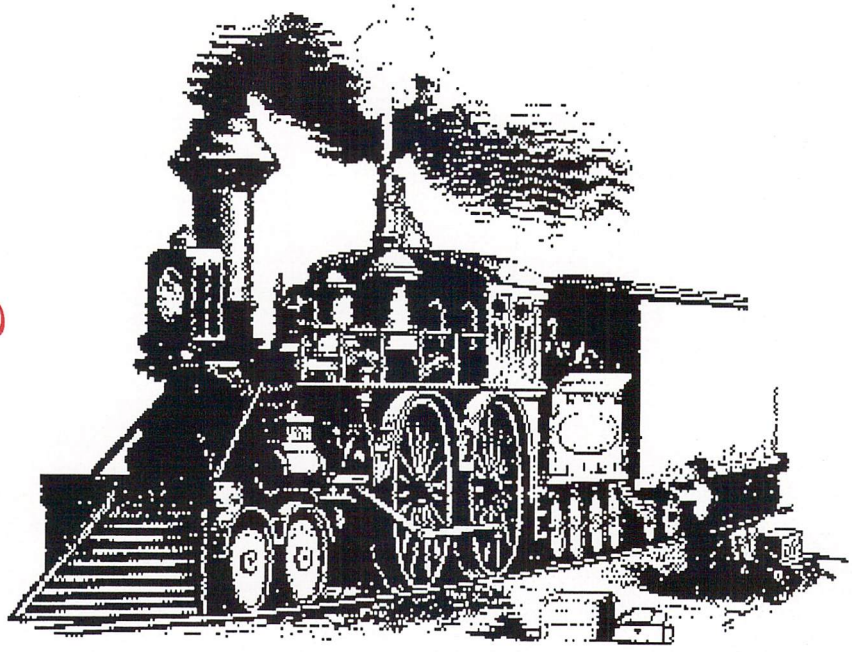
Copyright 1993 LynnCarthy Industries Inc. All Rights Reserved

Back Issues!

#	Name	Date	U.S.A.	Canada
1	HardCore	May 1992	$3.50	$5.00
2	Writers, Prgrs, Countrymen!	June 1992	$3.50	$5.00
3	Oops!	July/August 1992	$4.50	$6.00
4	Pumpkin	October 1992	$3.50	$5.00
5	geoIssue	Nov/Dec 1992	$3.50	$5.00
6	History In 3001	January 1993	$2.75	$4.25
7	Computer Cipher	February 1993	$2.75	$4.25
8	Script	March 1993	$2.75	$4.25
9	The Last Flyer	April 1993	$2.75	$4.25
10	The Adventures of Laser Mag!	May 1993	$2.75	$4.25
11	"The Connection!"	June/July 1993	$2.75	$4.25



Ordering dieHard



Enclosed is $____.____ (I daho residents must add 5% sales tax)
for:

__#1 __#2 __#3 __#4 __#5 __#6 __#7 __#8 __#9 __#10 __#11
(see top of page for back issue prices)

____One year; 10 issue subscription to the Flyer
($15 US funds or $25 Canadian funds)
____Single Flyer current issue
($1.75 US funds or $3 Canadian funds)

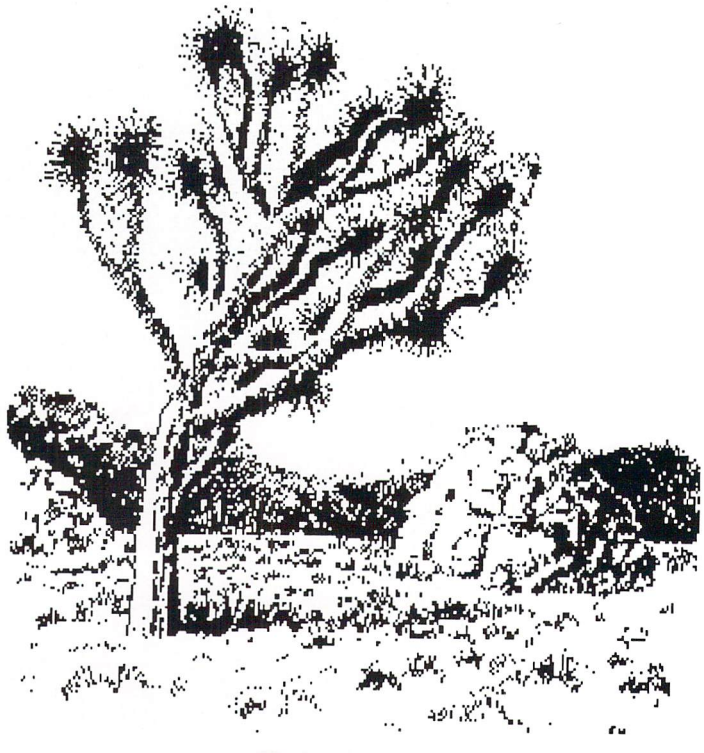
____One year; 10 issue subscription to the Spinner
($45 US funds or $65 Canadian funds)
____Single Spinner current issue
($5 US funds or $8 Canadian funds)

Name: _____
Address: _____
City: _____State:____Zip____-____

Mail to: **dieHard**, P O Box 392, Boise, ID, 83701-0392
Check or money order only please.
Idaho residents please add 5% sales tax.

dieHard

the Flyer for commodore 8bitters is written and compiled on **commodore** 8bit equipment. It is then typeset on a C128D computer using **geoPublish**. The system consists of a **commodore 128D** personal computer with an internal 1571 disk drive, external FSD-1 and 1581 disk drives, a **commodore MPS 1270** inkjet printer with a CARD?+G parallel interface, a **commodore MPS 803** dot matrix printer, **commodore 1670** modem, an Aprospand 64 cartridge port expansion unit, a **commodore 1764** RAM Expansion unit expanded to 512k, **Simons' Basic** cartridge, **HEARSAY 1000** voice cartridge, Super Snapshot V5 cartridge, a **commodore Datassette**, M-3 mouse, TAC 2 joystick controller, AMIGA 1080 80/40 column RGBI/composite monitor and a **commodore model 1701** 40 column monitor. Our masters are printed on an HP Laserjet II by Douglas Bober in Allison, PA. And the magazine you hold now is printed by Northwest Printing, Inc. here in Boise ID.



1 View From The Underground

The Editor-in-Chief takes a look at the Public Domain and reminisces about VIC20s and Laser Printers...

5 Basic BASIC

More direct mode, and a little programming.

Forum of the Mind

2 INPUT;READER$

Letters from our readers.

9 PAPSAW

Pokes and Peeks galore!

2 TIPS

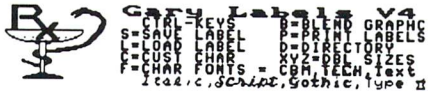
Mr. Derrer expands on address 1 -- 128 in 128 mode vs. 128 in 64 mode.

12 Archaic Computer

Tired of the same old shoot 'em ups? -- make your own!!!

15 Q & A

??????????????????!!!



3 REVIEW!

Need labels? Low budget? We look into the Public Domain to find the answer.

19 DOS & Don'ts

The exciting conclusion to Error Channel Uses and the beginning of the sequential voyage!

21 Trader's Corner

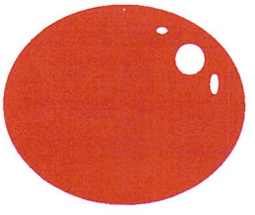
Looking for someone to trade with? This just might be the place!

22 PRG

PRG enters the realm of PD software. Just a touch.

4 Rarities

User Groups! The list is small, but it's growing! Check it out, there may be one near you!



dieHard the Flyer for commodore 8bitters
Brian L Crosthwaite, Editor-in-Chief
R. Scot Derrer, Associate Editor
Mia C. Crosthwaite, Managing Editor
Brian L Crosthwaite, Senior Staff Photographer/Layout & Design

Advertising: LynnCarthy Industries, Inc., P O Box 392, Boise, Idaho, 83701-0392, (208) 383-0300.

To inquire about subscription matters, please include magazine label in your letter and mail to: **dieHard**, P O Box 392, Boise, Idaho, 83701-0392

dieHard the Flyer for commodore 8bitters is published 10 times per year, on a monthly basis except for bi-monthly issues in June/July and November/December by LynnCarthy Industries, Inc. P O Box 392, Boise, Idaho, 83701-0392. Printed in U.S.A.

Subscription Rates: Single copy price $1.75, $15.00 per subscription year for U.S. and possessions; Single copy price $3.00, $25.00 per subscription year for Canada (in Canadian funds); and $25 (in U.S. funds) all other countries.

Change of Address: Four (4) weeks advance notice is required for change of address. Both old and new addresses.

Sorry we cannot return items sent to us, unless you provide adequate first class postage and containers. LynnCarthy Industries, Inc. will not be responsible for any lost materials.

dieHard is copyright 1993 by LynnCarthy Industries, Inc. All Rights Reserved. LynnCarthy Industries, Inc. assumes no responsibility for errors and/or omissions, loss of data, or any subsequent damage to computers or systems, or any other form of liability as a result of either direct or indirect use of any information, program or anything in the **Flyer** or the **Spinner** known as **dieHard. C=, commodore 64, commodore 16, commodore Plus/4, VIC20, PET, CBM, commodore 128, commodore128D**, and such are trademarks of Commodore Business Machines. LynnCarthy Industries, Inc. is in no way affiliated with Commodore Business Machines.

View From The Underground

by

Brian L Crosthwaite

Exploring alternate trains of thought...

I just have to stand back. If this is a theme issue, then from back here, I can see the Public Domain.

What is the Public Domain (PD)? PD is information, in this case PROGRAMS! The PD is a many faceted avenue. It is a place where programmers park some of their wares to be seen by all; it is a source for educational programs; it is an arcade. PD is free software.

Well, you might have to pay someone a copying fee, possibly some postage, or maybe download time. And some of it is only free to check out, meaning, if you like it you can buy it after you try it! This is what is known as Shareware.

Shareware is a neat concept. If you decide you don't want it, no biggie, just erase the disk and use it for something else. If you decide you do want it, there is usually information in the program or in an accompaning file that tells you what the Shareware fees are and who to pay them to. When you register a Shareware program (fees run from around $5 and up), you may receive more elaborate information, further updates and support. Also, when you send in your fees and register you are supporting the programmer that wrote the program.

This month **Rarities** is featuring User Groups. They are a great source of PD software. Libraries are also a good source. And programs are not all that exists in the PD, there is information as well. Take a look at this month's **PAPSAW**. I ran across these two text files on our User Group's Disk Of the Month (DOM). Originally downloaded from Q-Link, these two sequential files are packed with information for the C64 and C128. Even **PRG** has caught the PD bug! We have a good sized collection of PD for the PET, VIC20, C64, C16, Plus/4 and C128. The madness doesn't stop there; our graphics, as always, come from the PD!

Ok, not everything is from the PD, we have **DOS & Don'ts**, **Basic BASIC**, **Archaic Computer**, **just Tips**, and more!

The following is a file I typed in on my VIC20 using one of the early early versions of **Speedscript**. It says nothing of importance, but I just wanted to see something from a VIC20 laser printed! Just one of those Editorial Liberties...

This is, I believe, the first word processor I have ever used on the VIC20. I so desperately needed a WP back when Noesis, my C64 went to the hospital for his VICII disorder. I tried to enter THIS WP into my poor unexpanded VIC to no avail. But, now I have it -- and I didn't even have to type it in!!!

This is really cool. I don't know how I ever got along without 80 columns. This is 22 columns and has wordwrap! Real amazing. I used to only have a datassette for use with my C64, now I have a C128D with a 1764 expanded to 512k and a 1581 disk drive. But I love this little VIC, even though it takes up about the same amount of space as the C128D!

Bye 4 now.

Well, on that note, I leave you to your own insanity and enjoyment of this issue!

READY

■

INPUT:READER$

I am a new subscriber to dieHard and I found the first issue interesting. But I have a problem. I am looking for a mailing label program that will sort and print by zip code at the least. I also would like to print 3 to 4 labels across.

Would you have a program that would work for me? -- Daniel P. Toledo of Clovis, New Mexico

Datafile *for the C64 from* ***RUN*** *Feb 1987 by Mike Konshak and* ***Masterfile II*** *for the C128 from* ***LOADSTAR 128*** *#14. Both will sort up to five fields in order of hierchy as well as print up to three labels across.*

You might write to Softdisk or CMD for information on purchasing a copy of these issues. Here are the addresses:

Softdisk, P. O. Box 30008, Shreveport, LA, 71130.

Creative Micro Designs, Inc., 15 Benton Drive, P. O. Box 646, Dept. 1192, East Longmeadow, MA 01028.

I am happy to subscribe to your publication. I hope you can continue for a long time. I liked what I saw. The name says it all: WE ARE DIEHARDS! I love my C128 and refuse to "upgrade" when I have an excellent computer now. -- Willis Patten of Independence, Kansas

We're glad you like us! We are here to stay -- unless the sun suddenly goes super nova in which case, we might let our employees take the day off!

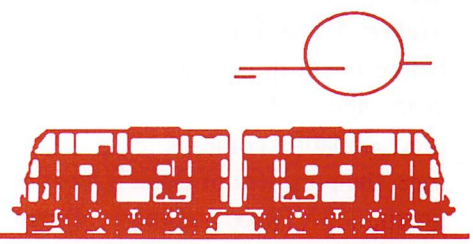
This is great literature. Hurrah, Rah, Rah, Rah. Keep it Coming!!! -- Charles Schweiger, Jr. of Baltimore, Maryland

Why did you stop using **geoPublish** to typeset **dieHard**? I thought it was quite unique subscribing to a magazine for and created on my favorite computer. Now, the MacIntosh print out looks professional and all, but the Commodore one had just gotten it's new look and I liked it! -- Strange disbelieving voice inside Brian's head.

We didn't stop typeseting ***dH*** *on a C128 using* ***geoPublish****. We just use a laser printer. We send each issue on disk in the form of* ***geoPublish*** *files to Douglas Bober in Allison Park, Pennsylvania, who, I believe, uses a C64, a 1571, and an HP Laerjet II to print out our masters. We do a bit of overnight mailing and Fed-Exing each month. Don't you think he does a great job?*

Yes, I do...

READY.
■



TIPS

compiled by R. Scot Derrer

In reference to a tip in the last issue, here is the tip again, revamped with further explanation. Some programs written for the C64, before the advent of the C128, will not boot on the C128/C128D when in 64 mode. Here's something to try: In C64 mode, press the CAPS/LOCK key *down*. Now try loading and running the program with the problem, it just may work now. The C128 has a different value in memory location 1 than a real C64 unless the CAPS/LOCK is pressed *down*. Memory location 1 is part of a built-in I/O port on the CPU and is used to control datasette and memory bank switching. On the C64, only 6 of the 8 bits are used (bits 7 and 8 are 0) whereas on the C128, all 8 bits are used. The value in memory location 1 on the C64 is 119. On the C128 when the CAPS/LOCK key is *up*, the value in this location is 173. Pressing this key *down*, the value is 119. -- R. Scot Derrer

---

To assist in 'seeing' the various ports on the back of your computer when fiddling with cables, use a Dymo Label Maker and create a plastic label strip with the names of the ports proportionally spaced (you'll have to measure this so it lines up). Stick this on the back top surface of your computer for easy-to-read port names. -- Walter C. Erbach of Lincoln, Nebraska

---

Do not validate any disks with RELative files, the validation will destroy them. Never validate any of your Commercial disks either. -- Marcus Krejci of Rural Retreat, Virginia

READY.
■

REVIEW!

GARY LABEL MAKER V4

by John S. Gary

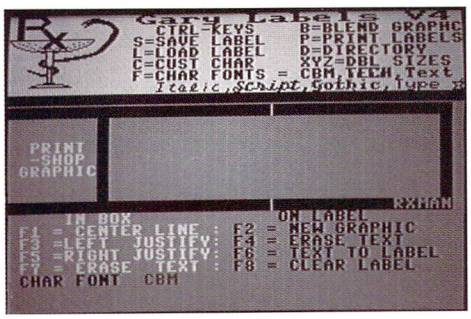
Reviewed by R. Scot Derrer

KEY:

*** * * * * Excellent**
*** * * * Great**
*** * * Good**
*** * Poor**
*** Don't Even Bother**

Although this Public Domain Shareware program has been around for several years now, its usefulness and functionality merit a current review. I must confess, I used **Gary Label Maker V4** (**GLMv4**) for some time before I sent in my Shareware fee two years ago. After years of practice, procrastination comes so easy. At that time, the president of Boise's local user group, TVBUG, Doug Parsons, inspired me to come clean like he did. Upon sending my $10, I received the updated version, several miscellaneous programs, graphics, borders, labels, and a lengthy letter from John Gary. Plus I found out he now has an AMIGA version of this program available -- well worth more than the $10 and my conscious carries less guilt.

With **GLMv4** you can easily create one-up 15/16" x 3 1/2" labels with **Printshop** 2 and 3 block graphics and **PS** compatible graphics. (One-up labels are single column labels as opposed to sheets with 3 and 4 labels across the page). **GLMv4** now loads **Newsroom** and **Printmaster** graphics without having to convert them into **PS** files and doing a load/save dance into **Printshop** to make them true **PS** graphics. The graphics print on the left side of the label with text on the right side. There are 7 character sets available and they can be mixed and matched with 29 characters across each of the 7 text lines in the design area. In addition to the normal text size, there are also three enhanced sizing styles available: double length, double height, or a combination of both. With access to the Commodore graphics character set, you can design borders, graphics, and get fairly creative.



Printer compatibility is somewhat limited, but has some versatility with experimentation and awareness of the 'Laws of Your Printer'. There are three printer drivers available: 1) Star 10X/SG 10, 2) NX10/Epson and compatibles (both 1 and 2 print quad density), and 3) Misc. printers. The miscellaneous driver supports double density and standard n/72 line feeds. Printers must be device 4 and support Transparent Mode in the interface, unless it's a Micrographics interface which has a special setup requirement and has to be device 5. Dip switching may be successful outside of these parameters. The documentation addresses this in more detail.

GLMv4 is very user friendly and is easy to learn and use. Documentation is thorough and concise (it's on the disk). The sample label, shown upon booting up, contains most of the commands you need, just print it for easy reference. A new feature is the ability to 'blend' graphics. After loading the first graphic, you may superimpose another graphic on top of it. Multicolor labels are possible by creating separate label component files. By changing your ribbon for each color and running the same labels through to print these different components, you can create some fun labels. The one problem I have had is when printing short strips of labels, there is an occasional skipping in printing. This is due to the sensitivity of running one-up labels through the printer. You just cannot run a short strip of labels through and expect perfection. The solution is to load the printer with labels still attached to the labels remaining in the box and set the box of labels below the printer, adding the proper weight and tension. Flawless labels require constant weight and tension -- throw in a new printer ribbon too. **Fun Graphics Machine** and **GLMv4** can be used together to make labels as their files are compatible.

For a copy of **Gary Label Maker V4**, send $10.00 to John S. Gary, 206 Crestline Dr., Lafayette, LA 70507. And as always -- pay your Shareware fees!

READY.
■

Rarities

with R. Scot Derrer

USER GROUPS

In the past fourteen years of Commodore mania (yes 14 years) there have been many user groups to come and go and quite a few of these groups still exist. Having less members perhaps, but still supporting and advocating the use of 8-bit computers with DTP-newsletters (DeskTop Publishing), vast PD software libraries, monthly meetings, Special Interest Groups (SIGs), disks of the month, educational classes and workshops, bulletin board systems (BBS's), and just being friendly and helpful.

I find it fascinating how the different computer and software companies have necessitated the creation of various support groups by their customers, and all for different reasons. The society/media sculptors define the 90's as the Information Decade. Not! It's been going on for some time and they're just waking up. Anyway, as part of our support to the 8-bit community, **dieHard** will inform you of the various user groups still kickin'. Once a year we will publish a complete list of the groups we know to still be active. If you know of a Commodore or 8-bit user group, either let them know about **dieHard** and/or let us know about them. Here is a list of user groups that we know are up and running.

Bloomington-Normal Computer Users Group
PO Box 1058
Bloomington, IL 61702-1058

Carson City Computer User Network
712 Hot Springs Road
Carson City, NV 89706

Catalina Commodore Computer Club
PO Box 32548
Tucson, AZ 85751-2548

Champaign-Urbana Commodore Users Group
PO Box 716
Champaign, IL 61824-0716

Commodore Users of Bartlesville
Fred Mayes
2524 S.W. Mountain Road
Bartlesville, OK 74003

Coos Computer Club
2175 Everett
North Bend, OR 97459-2336

Dayton Area Commodore Users Group
Elwood Dornbusch
2040 Turnbull Road
Dayton, Ohio 45431

First State Commodre Club
PO Box 1313
Dover, DE 19903-1313

Harrisburg Area Computer Group
721 South 29th Street
Harrisburg, PA 17111

Memphis Commodore Users Group
PO Box 34095
Memphis, TN 38134-0095

Miami Individuals with
Commodore Equipment
c/o 11110 Bird Road
Miami, FL 33165-4417

TPUG
5334 Yonge Street, Box #116
Willowdale, Ontario M2N 6M2
(416) 253-9637

Treasure Valley/Boise User Group
PO Box 6853
Boise, ID 83707-6853

64um
Fresno Commodore User Group
PO Box 16098
Fresno, CA, 93755

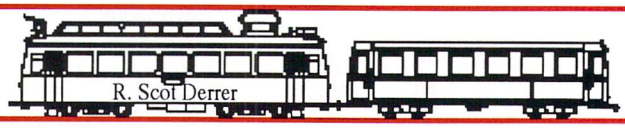
Kid's Computer News
c/o St. Hilda's & St. Hugh's School
619 West 114 Street
New York, NY 10025

Busy-Bee User Group
Theodore E. Seitz, Editor
3 Paseo Cuacha de Toro
Arivaca, AZ 85601-0003

Send us your newsletters and put us on your mailing lists! If you support the **commodore** 8bit world let us know and we'll put you in the spot light! Send us a letter and let us know what you do and we'll put you in the LIST. **dieHard**, ATTN Rarites, POBox 392, Boise, ID 83701- 0392.

Basic BASIC

More Direct Mode



REMark: When you see < > around some letters, this simply means to press the key represented by this symbol. i.e. <SHIFT ARROW UP> means press the shift key and arrow up. When you see [ ] around commands, it means to enter a keystoke combination in quote mode, i.e. "[2 <SHIFT><SPACE>]" means to press and hold the shift key and then press the space bar twice.

PRINTing Variables - A Primer

Last month I discerned between Direct Mode (entering commands from the keybaord) and BASIC mode (where a program enters the commands). Your computer is on, staring back at you. I want to finish the discussion about Direct Mode by discussing variables. Variables are chameleons in nature. In mathematics, they represent a quantity that may change under different conditions. We are going to use variables as stand-ins or stunt doubles. The familiar formula, A+B=C, will suffice for our needs with A,B, and C being variables. The variable A will equal the number 3, B will equal the number 4. Reviewing calculations from last month, type this in Direct Mode (Remember to press <RETURN> after each example) :

```
PRINT 3+4
```

The answer should be 7. Now we will try it using variables. Let's PRINT A+B, which will perform a calculation and provide the resulting answer. Type the following (I'll explain the colons later):

```
A=3:B=4:PRINT A+B
```

Again, your computer should display the number 7. PRINT A+B is essentially the same as PRINT 3+4, except we are using variables instead of numbers with assigned values to the variables. Let's try it with C as a variable.

```
A=5:B=6:C=(A+B):PRINT C
```

The result on your screen should be 11. For our purposes, these variables are numeric as their values can only be numbers.

STRING Variables

Another kind of variable is the string or alphanumeric variable. The symbol $ is used to represent a string which tells the computer the variable contains alphanumeric characters. A string is one or more characters between quotes. The character can be a letter, number, space, or a graphic character and, generally, no calculations are made with alphanumeric characters. The string variable represents whatever is in the 'string of characters' between the quotes.

```
C$="I CAN PRINT STRING VARIABLES":PRINT C$
```

Now you can make your computer print alphanumeric characters and the results of calculations. If we were to combine these concepts, it could look like the following example.

```
A=4:B=5:T$="TIMES":E$="EQUALS":PRINTA;T$;B;E$;A*B
```

Note the use of the colon and semicolon. Hopefully your computer printed "4 TIMES 5 EQUALS 20". The colons (:) allow you to put more than one BASIC command on one

line. The semicolons (;) allow you to string together characters next to each other. If the BASIC line is longer than your screen width, just let it wrap around and don't press <RETURN> until you have typed the whole line in.

BASIC History 101

The term BASIC stands for Beginner's All-Purpose Symbolic Instruction Code. It was developed in 1964 at Dartmouth College under the direction of John Kemeny and Thomas Kurtz. I just read in **Random Magazine** that Mr. Kemeny died on December 26, 1992 at the age of 66. Along with his co-development of BASIC, he was also a research assistant to Albert Einstein and worked on the Manhattan Project. The version of Microsoft BASIC we use on Commodore computers is more powerful than, but still merely an enhancement of this 29 year old computer programming language. I was in fifth grade then....

As its name implies, BASIC was intended to be simple to learn, inexpensive to implement and use, and interactive with immediate response to its users. Being a typed, alphanumeric language, BASIC must be converted by the computer into a language it can understand, machine language. The computer's operating system is, shall we say, transparent to us, the users. This means the computer does its many tasks while the user of the computer does his or her own tasks. Part of the computer's operating system is a BASIC interpreter which sits patiently awaiting your 'commands'. A translator is very similar to an interpreter in that it also converts a programming language into machine-type language. This translated, machine-type language must then be converted by the interpreter into actual machine language.

Beginning BASIC Programming

So far, all of the examples we have tried using PRINT, have been in Direct Mode. To convert any of the PRINT statements to a BASIC program is easy. You simply put a line number in front of the command. This line number followed by a BASIC command or series of BASIC commands, tells your computer's operating system it is dealing with a BASIC program. A BASIC program can be one line to thousands of lines long. The processing philosophy of a program is INPUT-->PROCESS-->OUTPUT. Type this one-line program in. This is also known as 'coding a program' and the BASIC statement and/or command is known as 'code'.

```
10 PRINT"YOU ARE NOW A BASIC PROGRAMMER"
```

When you press <RETURN>, nothing happens. You now have several options. The line number 10 tells the computer it is a BASIC program line. The operating system knows to store this program in temporary memory and keep it there until you tell it what to do next. Type LIST and press <RETURN>. This will display or list your program on the screen.

Now you can EDIT your program, if you choose to. Editing is correcting or modifying the code. You use the CRSR keys to move the cursor to the line of code you want to change. The Insert/Delete <INST/DEL> key is used to delete or add code. You may also type over existing code. After editing, remember to press <RETURN> or the operating system will not recognize any of the changes. For example, I made the following change by placing the cursor on the space between the "w" in the word "now" and the word "a" and pressing the <DEL> key four times.

```
10 PRINT"YOU ARE A BASIC PROGRAMMER"
```

LIST the program again if you like. Another option at this point is to RUN the program. Type RUN and press <RETURN>. The computer should display the text within the quotes. If you somehow made a mistake, an error message will be displayed. You can edit the code to correct the mistake. A fun piece of code to add at this point, would be a command to clear the screen.

```
5  PRINT"[<SHIFT><CLR/HOME>]"
```

Remember to press <RETURN> and then either RUN or LIST the program. You now have two lines of code. When you RUN the program the computer will start with the first line of code and exicute it (clear the screen), then move on to the next line of code and exicute it (print the text).

Other options at this point are to SAVE your program to a permanent storage unit such as a diskette or cassette or type NEW and then press <RETURN> to clear out the temporary memory where the BASIC program is stored. You can also LOAD another program into temporary memory or turn off your computer.

I realize that terms like temporary memory and machine language may be unfamiliar to some of you. If you're so inclined to educate yourself further; the library, used book shops, and thrift stores are a wonderful, inexpensive source of math, computer, and programming books. In the next issue, I'll continue with more in-depth BASIC programming, operating system junk, error messages, and whatever the Editor misses. Meanwhile, the beginning programmers are now initiated as Neophyte Hackers in the 0 degree and the experienced programmers are probably having their patience tested. Be seeing you.

```
READY.
■
```

CMD Sets Pace for 1993 with New Products and Lower Prices

CMD Offers One-Stop Shopping to Commodore Owners

Effective May 1, 1993 CMD acquired all rights to RUN software and has purchased all items from their inventory. As result, CMD will be offering one of the largest selections of Commodore 64/128 software and hardware available today. CMD's decision reinforces its commitment to C-64/128 owners worldwide. It is our hope that we can offer *"One Stop Shopping"* to Commodore owners. If we don't have it...we can probably find it! Here is a partial list of products. For a complete list call or write for a free catalog.

- RUN Mag.- back issues
- RUN/ReRUN software
- Abacus books & software
- GEOS 2.0 & applications
- Timeworks Software
- Superbase & Superscript
- SOGWAP-Big Blue Reader
- Microprose games
- Xetec Printer Interfaces
- Electronic Arts Games
- Skyles Electric Works
- Dr. T's Music Software
- Power Supplies
- Miscellaneous Cables
- Blank disks - 3.5" & 5.25"
- Misc. IC Chips
- RAM Chips/SIMM's
- ... and MUCH More

NEW

CMD Utilities

A Powerful and Unique Collection of Disk Utilities for Commodore and CMD Storage Devices

FCOPY+ A two drive file copier featuring 1541,71,81, REU and CMD device compatibility which is capable of copying any size PRG, SEQ, REL, USR File. ***NEW*** features include:
Scratch/Unscratch Files • Copy/Delete C128 Boot Sector • Disk/Partition UnNew • File Compare • Access DOS Commands thru Menus • Lock/Unlock Files • Format Disk/Partition • Create/Remove Sub Directories • Rename File/Partition/Header • Change Current Partition/Subdirectory

MCOPY A two drive whole disk/partition file copier which supports CMD storage devices and Commodore 1541, 71, 81 disk drives.

BCOPY+ A powerful backup/restore utility which backs up any CMD device or partition to a 1541,71,81 drive or CMD FD Series floppy drive. This new version incorpoates the ability to dump an entire CMD device to an HD Series hard drive.

FIND Searches specified partitions on CMD devices for files that match a user defined filename pattern. Includes handy printer/screen toggle.

DIR SORT Alphabetizing utility for 1541,71,81 drives and all CMD storage devices makes it easy to organize large directories.

MCOMPARE Two drive disk compare utility makes it easy to evaluate the accurancy of a CMD partition against a disk copy.

FOLLOW LINKS Helps to locate and remove corrupt files.

CONVERT 41<>71 Converts between 1541 & 71 formats. Allows increased storage on 1541 disks after MCOPY'ing to 1571 or partition.

ZAP REU/DACC Clears memory in REU or RAMLink DACC partition.

HD POWER TOOLS Allows editing of CMD Device Partition Table.

REBUILD PDIR Helps to recover partitions after completely recreating the system on CMD Devices.

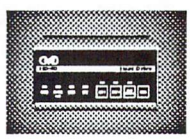
Shareware Utilities Included:

DEDIT64/128, SuperDEDIT64/128 Sort or manually edit directories subdirectories and partitions on 1541,71,81 drives and all CMD Devices.

NEW LOWER PRICES

RAMLink	
RAMLink with 0 MB RAMCard	$199.95
RAMLink with 1 MB RAMCard	$229.95
RAMLink with 4 MB RAMCard	$329.95
Real-Time-Clock for RAMCard (Optional)	$20.00
RAMLink Battery Back-up (Optional)	$24.95
1 MB & 4 MB SIMM Modules	CALL
Parallel Cable (RAMLink to HD)	$14.95
RAMDrive	
RAMDrive 1 MB	$249.95
RAMDrive 2 MB	$299.95
HD-Series Hard Disk Drives	
HD-40, (Special Edition w/ 85 MB Drive)	$495.00
HD-100, (Special Edition w/ 170 MB Drive)	$595.00
HD-200, (Special Edition w/ 245 MB Drive)	$695.00
FD-Series 3.5", Floppy Disk Drives	
FD-2000 (800K and 1.6 MB Formats)	$179.95
FD-4000 (800K, 1.6 MB and 3.2 MB Formats)	$249.95
FD Real-Time-Clock Option	$20.00
Box of 10, High Density Disks (1.6MB)	$14.95
Box of 10, Enhanced Density Disks (3.2 MB)	$60.00
Single ED-Disk (3.2 MB)	$8.00
JiffyDOS (Specify Computer/drive model & serial number)	
C64-System (Computer & drive)	$49.95
SX-64 System (Computer & Internal 1541)	$49.95
C-128 System (Computer & drive)	$59.95
128-D System (Computer & Internal 1571)	$59.95
Additional Drive ROM's	$24.95
Software Products	
geoMakeBoot (Makes bootable copies of GEOS 64/128)	$12.95
gateWay/64 or 128 (GEOS Desktop Replacement)	$29.95
geoCanvas (Alternative GEOS Paint Program)	$29.95
Collette Utilities (Handy GEOS Utilities)	$19.95
Perfect Print LQ for GEOS (Font Coll.1&2, 49 Fonts)	$49.95
Font Collection 3 (17 Fonts and 5 Borders)	$19.95
Border Font Collection 1 (24 Border Fonts)	$19.95
JiffyMON - ML Monitor for JiffyDOS/64	$19.95
CMD Utilities - Collection of Powerful Disk Utilities	$24.95
Miscellaneous CMD Products	
SwiftLink, RS-232 Interface (300 to 38,400 baud)	$39.95
SwiftLink Cable (DB9 to DB25)	$9.95
SID Symphony Stereo Cartridge w/ Player	$39.95

All prices and specifications subject to change without notice

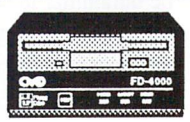


High Performance SCSI Hard Drive for the C64 & C128

HD Series Hard Drives are available in capacities up to 200 MB, are fully partitionable, and can emulate 1541, 1571, & 1581 disks while Native partitions utilize MSDOS-style subdirectories. HD's connect easily to the serial bus or parallel via RAMLink. Includes built-in JiffyDOS, SWAP feature and Real-Time-Clock. HD Series Drives offer superior compatibility with most commercial software including BBS, Productivity and GEOS. And with new pricing, HD Series drives offer the lowest cost/MB of any C64/128 storage device.

Power Backed Expandable RAM Disk and Interface

The fastest possible form of storage, RAMLink provides instant access to files and retains data while your computer is turned off. Easy to use and expandable up to 16 MB, RAMLink utilizes the same powerful operating system found in the HD. RAMLink also offers built-in JiffyDOS, SWAP feature, reset button, enable/disable switch, pass-thru port and RAM port for REU/GEORAM use. Ideal for those requiring maximum speed, expandability and compatibility with all types of software and hardware including GEOS.



High Capacity 1.6 and 3.2 MB 3.5" Floppy Disk Drives

The FD-2000 and FD-4000 disk drives utilize today's latest 3.5 inch technology. FD-2000's support 800K (1581 style) and 1.6 MB (High Density) formats, while the FD-4000's offer support for the 3.2 MB (Enhanced Density) format as well. Fast and reliable, they support 1541, 1571 and 1581 style partitions, Native Mode partitioning and can actually read and write 1581 disks. FD's feature built-in JiffyDOS, SWAP button and optional RTC. High capacity, speed and compatibility make the FD right for every application, including GEOS.

JiffyDOS™

Speeds up disk access by as much as 1500% while maintaining 100% compatibility with commercial software

- Speeds up Loading, Saving, Verifying, Formatting and Reading/Writing of PRG, SEQ, USR and REL files
- Built-in DOS Wedge plus 17 additonal features including file copier, text dump, printer toggle, and redefinable function keys
- ROM upgrade installs easily into most computers and disk drives. Supports C-64, 64C, SX-64, C-128, 128-D, 1541, 1541C, 1541-II, 1571, 1581 and more. 128 system supports both 64 and 128 modes and upgraded Kernal routines.

Shipping and Handling Charges:
Hard Drives: UPS $15.00; 2nd-day $25.00; AK, HI, Canada $35.00
RAMLink, RAMDrive, FD: UPS $9.00; 2nd-day $16.00,; AK, HI, Canada $20.00
JDOS, SID, SL: UPS $5.50,; 2 day $10.00,; AK, HI, Canada $15.00 **GBoot, Col. CMD Utils:** 1st Class Mail $2.00; Canada $5.00
All Foreign Orders: Call
Payment: MC, Visa, Money Order or Bank Check. COD shipments add $5.00 COD's may require advanced deposit. Personal checks are held for 3 wks.

Creative Micro Designs, Inc.
P.O. Box 646, E. Longmeadow, MA 01028
CMD
Orders: (800) 638-3263
Info: (413) 525-0023
BBS: (413) 525-0148
Office Hours: 9 AM to 5 PM, EST, Monday thru Friday.

The Commodore Cannot Survive on Powerful Hardware Alone...
Now, CMD Offers a Wide Selection of Popular and Hard-to-Find C-64/128 Software

Productivity	
OmniWriter with OmniSpell	$30.00
Word Writer 6	$30.00
Super Script/64	$15.00
Super Script/128	$20.00
Busidata	$30.00
Data Manager 2	$16.00
Suberbase / 64 Version 3.01	$35.00
Superbase / 128 Version 3.01	$35.00
Busicalc 3	$30.00
Calc II	$40.00
PowerPlan 64	$16.00
SwiftCalc 64	$16.00

Other Productivity	
Cadpak 64 (Abacus)	$22.00
Cadpak 128 (Abacus)	$25.00
Chartpak 64 (Abacus)	$17.00
Chartpak 128 (Abacus)	$25.00
RUN Productivity Pak I	$15.00
RUN Productivity Pak II	$15.00
RUN Productivity Pak III	$15.00
RUN Super Starter Pak for the 1541	$20.00
RUN Super Starter Pak for the 1581	$20.00
RUN Works	$20.00

Languages/Compilers	
BASIC 64 Compiler (Abacus)	$17.00
BASIC 128 Compiler (Abacus)	$25.00
Blitzl 64 or 128 Compiler (Specify 64 or 128)	$30.00
Cobol 64 (Abacus)	$17.00
Fortran 64 (Abacus)	$17.00
Pascal 64 (Abacus)	$17.00
Big Blue Reader **NEW!!!** Version 4.1	$39.00

Misc. Software	
RUN Story Disk	$10.00
Sky Travel	$20.00
Mathmaze	$17.00
RUN Educational Pak Vol. 1 or 2 (Specify)	$12.00

Games	
AcroJet	$12.00
Airborne Ranger	$16.00
Atomino	$17.00
Ballistix	$13.00
Blackjack Academy	$12.00
Blood Money	$15.00
Chomp!	$10.00
Conflict in Vietnam	$16.00
Elvira, Mistress of the Dark	$13.00
Menace	$15.00
Marble Madness	$13.00
Navy Seal	$10.00
Red Storm Rising	$16.00
Rings of Medusa	$16.00
RUN C128 Funpak	$15.00
RUN C64 Gamepak	$15.00
RUN C64 Strategy Games I	$15.00
RUN C64 Strategy Games II	$15.00
Silent Service	$16.00
Skate or Die	$13.00
The Amazing Spider-Man	$15.00
The President Is Mising!	$10.00
The Three Stooges	$10.00
Tie Break Tennis	$16.00
Total Eclipse	$10.00
Ultima III	$17.00
Ultima IV	$22.00
Ultima V	$22.00
Wizardry V	$24.00

Music/MIDI Software	
Dr. T KCS64 & Model-T Midi Interface	$105.00
Dr. T KCS128 & Model-T Midi Interface	$149.00
Dr. T Algorithmic Composer	$20.00
Dr. T 4-OP MIDI Ed/Lib	$20.00
Dr. T CZ-Rider MIDI Ed/Lib	$20.00
Dr. T DX-7 MIDI Ed/Lib	$20.00

Modems/Terminal Software	
Dialogue 128	$29.00
SpeedTerm	$25.00
Commodore 1660/Modem 300	$10.00
Modem 300 w/Speedterm	$16.00
BOCA 2400 Baud Modem	$79.00
BOCA 2400 w/SwiftLink and Cable	$119.00
BOCA 14.4K Baud Modem	$249.00
BOCA 14.4K w/SwiftLink and Cable	$279.00

Misc. Hardware	
GeoCable Compatible Print Cable	$20.00
Xetec Super Graphix Jr.	$45.00
Xetec Super Graphix Sr.	$60.00
2+1 Cartridge Port Expander	$45.00
C-1351 Mouse	$36.00
C-64, C-64C Power Supply (Lifetime Warranty)	$39.00
C-128 Power Supply	$45.00
1581/1541-II Power Supply	$25.00

Abacus Books

1571 Internals • Anatomy of the 1541 • C64 Tricks & Tips C128 Computer Aided Design • C128 BASIC Training Guide Graphics Book for the C64 • Printer Book for the C64 • Ideas for Use on Your C64 **$12.00 Each**

ReRUN Disks

(Any: 1 for $10, 3 for $18, 6 for $24)

1985: Spring, Summer, Fall
1986-89, 91,92: Jan/Feb, Mar/April, May/June, July/Aug,Sept/Oct, Nov/Dec **1990:** Jan/Feb, Mar/April, May, June/July, Summer Spcl., Aug/Sept/Oct, Nov/Dec

RUN Back Issues

(Any: 3 for $10, 6 for $18, 12 for $25)

1988: Jan, Feb, March, April, May, June, July, Aug **1989:** Jan, Feb, March, May, June, July, Aug, Sept, Oct **1990:** Jan, May, June/July, Dec **1991:** Jan/Feb, June, Sept/Oct**1992:** Jan/Feb, Mar/April, May/June, July/Aug, Sept/Oct, Nov/Dec **Special Issue:**1987, 1988, 1989

CMD ... Your Source for GEOS 2.0 and all GEOS Applications

GEOS 64 V2.0 ..... $40.00	geoFile 64 ..... $40.00	geoCalc 64 ..... $40.00	geoPublish $40.00
GEOS 128 V2.0 ..... $45.00	geoFile 128 ..... $45.00	geoCalc 128 ..... $45.00	geoProgrammer $45.00
GEOChart $29.00	Desk Pack Plus $29.00	FONT Pack $25.00	Int'l FONT Pack $25.00

GEOS POWER PAK

This revolutionary disk features some of the best talent in the GEOS community. A two-sided disk packed with ten of the most practical GEOS desk accessories, utilities and applications, plus 21 fonts and over 100 clip art images. GEOS Power Pak expands C-64 capabilities, increases your efficiency, and makes you more productive. GEOS Power Pak includes: geoTerm 1.0, CardFile, Write Hand Man, geoBreak, Autoview, Pattern Editor, Thumbnail, geoOrganizer, Convert 2.2, and PaintView II. Plus fonts and clip art images. **Only $20.00**

GEOS POWER PAK II

Log on to your favorite BBS without ever leaving GEOS. Shoot before you're shot in a challenging arcade style game. Create documentation files for GEOS-based Utilities. Capture your opponent's pieces in Egyptian Siege. Save time with a fast and simple text editor. View GEOS-compatible fonts in any style or size, up to 48 points. Includes:GeoTerm64 V2.0, GeoTerm128 V2.1, Egyptian Siege, FontView, geoTILE, Q&D Edit, Import Runner, DocWright II, Shoot Out, four fonts and over thirty clip art images. **Only $20.00**

GEOBasic

Bring the world of point-and-click performance to your programs with this high-level programming language from GeoWorks. GEOBasic includes five specialized editors to make programming easier than you've ever dreamed. Design the exact pull-down menu you need. Add bitmap graphics into your programs in a snap. Full featured Icon, Dialog box and Sprite editors, are all easily accessible from the Text Editor. GEOBasic comes complete with sample applications and 138 page spiral bound programming manual. GEOBasic is the perfect addition to any GEOS enthusiasts library. **Now just $20.00**

GEOS Companion

Whether you're creating animations and sound effects or playing Breakout in 3-D, GEOS Companion has something every GEOS user. It is packed with powerful accessories and utilities such as Pattern Editor 2.0, File Merge, 1581 Boot Maker, Auto-Loader and Batch File Copier. And if that isn't enough, we've thrown in Susan Lamb's collection of clip art images which are ideal for dressing up cards, newsletters or any other document you may be creating. GEOS Companion comes complete with a comprehensive 38 page manual. **Only $20.00**

U.S. Shipping and Ordering Information

Books and Software: First Item $5.00, plus $1.00 for each add'l item. Hardware: $5.50 per item. Power Supplies: $7.50 ea. RUN Back Issues: $5.50 (3), $6.50 (6), $7.50 (12).MC, Visa, Money Order Accepted.COD add $5.00. Personal checks are held for 3 wks. No Returns on opened software, 10 % restocking charge on all returns. Pricing and availability subject to change without notice.

geoCable Compatible Parallel Print Cable

Connects parallel printers directly to the Commodore C-64 or C-128 User Port for faster printing on 9 pin printers and dramatically faster output on 24 pin printers. Built-in pass-thru port allows you to maintain connection to most modems. Ideal for use with CMD's Perfect Print LQ system and other geoCable-compatible software. **Now just $20.00**

CMD

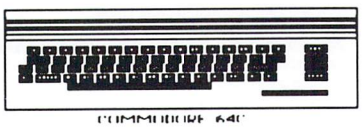
Creative Micro Designs, Inc.

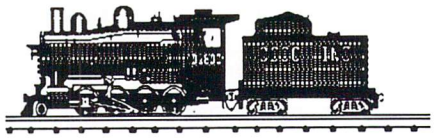
P.O. Box 646, 15 Benton Drive East Longmeadow, MA 01028
Orders: (800) 638-3263 **Info:** (413) 525-0023 **FAX:** (413) 525-0147
Office Hours: 9 AM to 5 PM, EST, Monday thru Friday.

CMD

PAPSAW

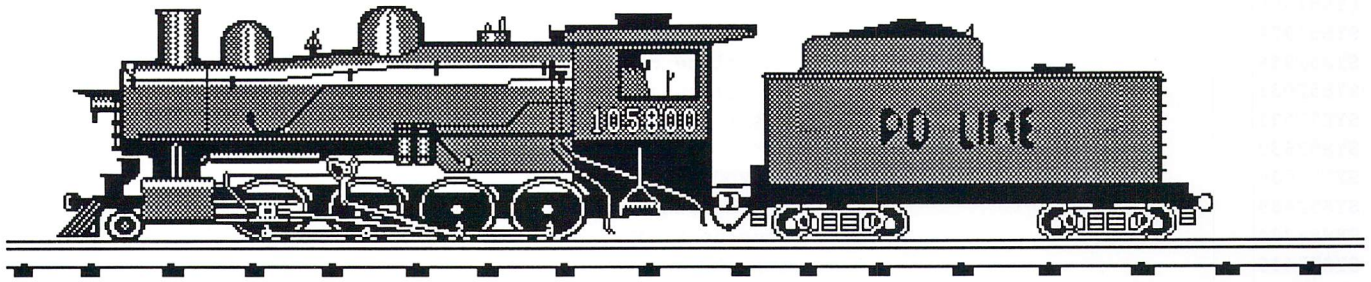
Brian L Crosthwaite

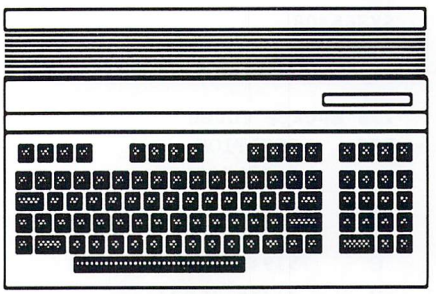




This month I'm putting my **custom color** (turned chip exploration) article on hold. Instead, **PAPSAW** will feature excerpts from two Public Domain sequential files compiled by Jerry Schauss and David L Furguson. These files made it to me via the disk of the month from TV/BUG. This is the sort of stuff **PAPSAW** is made of.

```
USEFUL POKES & SYS FOR THE COMMODORE 64

POKE 657,128 ---------- DISABLES SHIFT/COMMODORE KEY
                        COMBINATION, PREVENTS
                        SWITCHING BETWEEN LOWERCASE
                        AND UPPER CASE LETTERS AND
                        GRAPHICS
POKE 657,0   ---------- RESTORES SHIFT/COMMODORE KEY
                        COMBINATION


POKE 120,0   ---------- TURNS COMPUTER INTO MINDLESS
                        TYPEWRITER, COMPUTER MUST BE
                        TURNED OFF TO RESET.


POKE 211,COLUMN:POKE 214,ROW:SYS 58640:PRINT "YOUR
                        MESSAGE" THIS COMMAND PUTS
                        YOUR MESSAGE ON THE SCREEN AT
                        THE LOCATION YOU SELECT


POKE 53272,21 --------- UPPER CASE/GRAPHICS
POKE 53272,23 --------- LOWER CASE/UPPER CASE


POKE 788,52:POKE 808,239 ----- DISABLES STOP
POKE 788,49:POKE 808,237 ----- RESTORES STOP
POKE 778,49:POKE 792,193 ----- RESTORES STOP


POKE 808,234  --------- DISABLE ATOP, RESTORE, LIST
POKE 808,237  --------- RESTORE STOP, RESTORE, LIST
POKE 808,225  --------- DISABLE RESTORE
POKE 808,237  --------- ENABLE RESTORE


POKE 818,32   --------- DISABLE SAVE
POKE 818,237  --------- RESTORE SAVE


POKE 775,200  --------- DISABLE LIST
POKE 775,167  --------- RESTORE LIST
POKE 774,0    --------- DISABLE LIST
POKE 774,26   --------- RESTORE LIST


POKE 649,15   --------- INCREASE KEYBOARD BUFFER


POKE 649,10:POKE 808,237 ----- RESTORE KEYBOARD
POKE 808,249  --------- DISABLE KEYBOARD
POKE 808,237  --------- RESTORE KEYBOARD
POKE 649,10   --------- RESTORE KEYBOARD


POKE 56579,N  --------- TURNS ON/OFF USER PORT PB
                        LOCATIONS (N = 0 THROUGH 255)
POKE 56577,N  --------- SAME AS POKE 56579,N


SYS64767      --------- RESETS COMPUTER WITHOUT
                        CHANGING SCREEN COLORS

SYS42562      --------- NEW COMMAND

SYS58235      --------- WARM START RESET

SYS58260      --------- INITIALIZE

SYS58726      --------- CLR/HOME

SYS59062      --------- ADVANCE CURSOR

SYS59137      --------- PREVIOUS LINE

SYS59626      --------- SCROLL A LINE

SYS64738      --------- COLD START RESET

SYS65126      --------- ALTERNATE START RESET
```



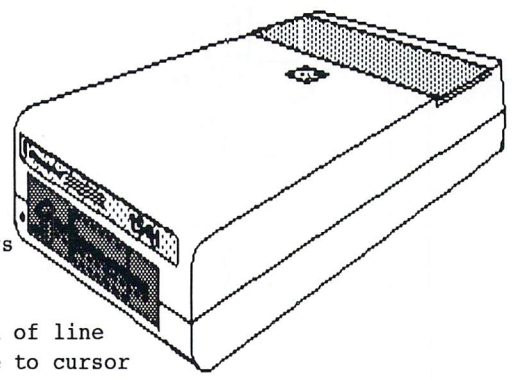

COMMODORE 128

128 POKEs & Peeks

POKE 241,peek(241)or16	Blinks 80 column text
POKE 241,peek(241)and239	Stops 80 column text blink
POKE 241,c	Sets cursor color (c=0-15)
POKE 247,128	Disables C=/SHIFT. (,0=normal)
POKE 248,64	Unlink screen lines. (,0=normal)
POKE 248,128	Disable screen scroll. (,0=normal)
POKE 249,128	Disable bell. (,0=normal
POKE 775,139	Disables list. (,81=normal)
POKE 792,51:793,255	Disables RUN/STOP-RESTORE. (,64:,250=normal)
POKE 818,50	Disables save. (,28=normal)
BANK15,SYS49425	Redefines function keys to the C64
SYS52522	Normal C128 function keys
POKE 2592,0	Disables keyboard (,10=normal)
POKE 2593,1	Waits for key press
POKE 2594,1	Keys repeat as C64's do. (,128=normal)
POKE 2594,127	No keys repeat. (,128=normal)
POKE 2599,0	Blinks cursor 40 column. (,1=normal)
POKE 4140,0	Moves SHIFT-RUN/STOP to help key

128 SYStem commands

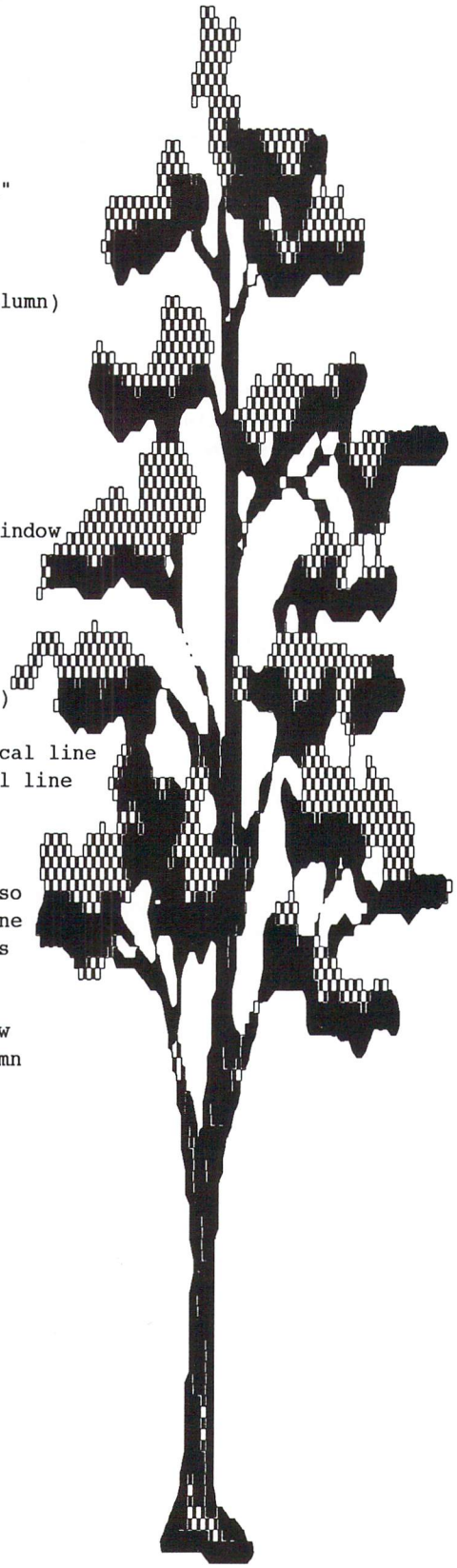
SYS16384	Basic's Cold start
SYS16387	Basic's Warm start
SYS16795	Print's power up message
SYS19767	Entry-Basic's ready mode
SYS19910	Keep "READY" from appearing
SYS44963	Runs the basic program in memory
SYS49152	Kernel's warm start
SYS49747	Basic's CLEAR/HOME cursor
SYS49488	Basic's "HOME" cursor
SYS50341,x	Clears line number in register(x=0-24)
SYS51069	Cancels Quote and reverse mode
SYS51284	Cursor right in window
SYS51290	" Down " "
SYS51303	" up " "
SYS51317	" left " "
SYS51328	Switch to lower case
SYS51346	" " upper "
SYS51366	Disables SHIFT/C= switch
SYS51372	Enables " " "
SYS51602	Generates bell tone always
SYS51748	Clears all windows
SYS51739	Clears current line
SYS51830	Clears from cursor to end of line
SYS51815	" " start of line to cursor



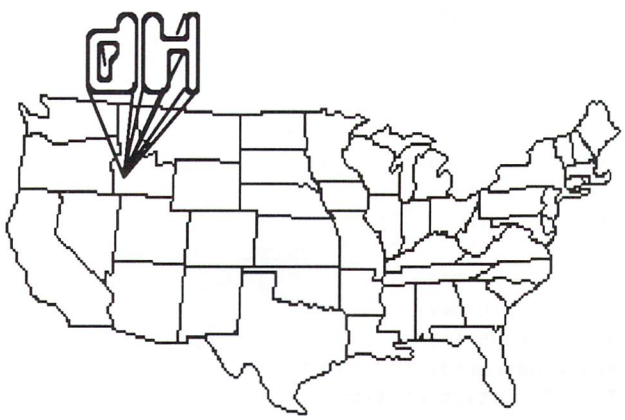
SYS51871	Clears from cursor to screen end
SYS51900	Scroll up
SYS51954	Enable block cursor
SYS51966	" underline cursor
SYS52031	Invert 80 column screen
SYS52591	Turns cursor on
SYS52639	" " off
SYS52684	Writes to VDC register
SYS52689	Reads VDC register
SYS54784	VDC version(peek(54787)and7)
SYS57416	GO 64 without "are you sure?"
SYS65341	Machine reset
SYS65354,a	Closes all files in device "a"
SYS65357	Resets 128 as a 64
SYS65357	GO 64 without "are you sure?"
SYS65363	Boot call
SYS65375	Swap active screens (80/40 column)
SYS65408	Kernel ID bite(peek(65408))

128 Escape Codes

ESC	LOCATION	ACTION
@	51871/$CA9F	Clears end of screen
A	51949/$CAED	Enters autoinsert mode
B	51734/$CA16	Sets bottom right corner of window
C	51946/$CAEA	Cancels autoinsert mode
D	51794/$CA52	Deletes entire logical line
E	51979/$CB0B	Sets nonblinking cursor
F	52001/$CB21	Sets blinking cursor mode
G	52023/$CB37	Enables bell tone for CHR$(7)
H	52026/$CB3A	Disables bell tone for CHR$(7)
I	51773/$CA3D	Inserts a blank screen line
J	52145/$CBB1	Moves cursor to start of logical line
K	52050/$CB52	Moves cursor to end of logical line
L	51938/$CAE2	Enables screen scrolling
M	51941/$CAE5	Disables screen scrolling
N	52040/$CB48	Sets normal 80 column screen
O	51069/$C77D	Cancels quote mode ESC-ESC also
P	51815/$CA8B	Erases to start of logical line
Q	51830/$CA76	Erases to end of logical lines
R	52013/$CB3F	Reverses 80 column screen
S	51954/$CAF2	Sets block cursor (80 column)
T	51732/$CA14	Sets top left corner of window
U	51966/$CAFE	Sets underline cursor 80 column
V	51900/$CABC	Scrolls screen up one line
W	51914/$CACA	Scrolls screen down one line
X	52524/$CD2C	Switches active displays
Y	51587/$C983	Sets default tab stops
Z	51584/$C980	Clears all tab stops



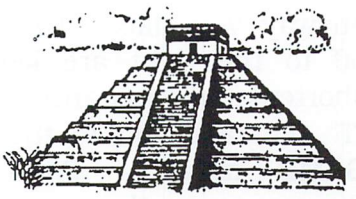
READY.



Archaic Computer

The Computer Store Of The Past

by
Brian L Crosthwaite



Ah, 1989. Not a bad year. I was into **Echelon**, **Super Huey II**, and **Defender of the Crown**. **Echelon** was great! **Super Huey II**'s user interface was so complex it totally ruined the game for me. **Defender of the Crown** flashed the text on the screen so fast and short that I couldn't even read it -- so I took it back! (Long story there.)

I spent a lot of time studying and chillin' by the pool. I meet the girl who was to become my wife. My computing consisted mostly of playing games and programming graphics.

Software Etc still carried lots of C64 stuff. One title that caught my eye was a game maker called **Shoot 'Em Up *Construction Kit***. It was priced at around 14 bucks, but some other game pulled my attention away. Later, as the supplies for the C64 were dwindling from the sale tables in 1992, it dropped in price to $9.95.

Now, in 1993, Software Etc has nothing for the C64, even blank disks are MS-DOS format. Well, as support goes, there is still a place that carries a pile of C64 software. New Titles. Old titles. New and Used. I am speaking of Software Support International -- one of the remaining multi-machine support places that still supports our C64s! This kit can be found amidst the pages of their catalogoue as well as right here in our own little corner of the universe, here in the Underground, here in our Computer Store Of The Past.

Shoot 'Em Up *Construction Kit*

Avantage

* * * * * Fantastic!

Reviewed by AC-Man -- Brian L Crosthwaite

The program loads from BASIC with the standard 'LOAD":*",8,1'. You'll see the AVANTAGE logo screen, followed by a **Shoot 'Em Up *Construction Kit*** logo screen and finally the **control menu** pops up. Since this is a game oriented package, you must have a joystick in port 2 to move the highlight bar and press fire to select. Cursor keys do not respond.

The choices from the **control menu** are:

BLANK MODULE
SPACE HAWK
OUTLAW
TRANSPUTER MAN
QUIT TO BASIC.

The first choice is for making your own game (BLANK MODULE). The next three are actual games created with the **Shoot 'Em Up *Construction Kit***. The last choice, of course, is to exit the program.

Since the first thing I did was to play the games I'll discuss them just a little before we get into the nitty gritty of things.

THE GAMES

With the joystick, move the highlighter bar over **SPACE HAWK** and hit fire and the program loads. The main menu soon appears. Inside here you will find:

TEST GAME	- T
EDIT SPRITES	- S
EDIT OBJECTS	- O
EDIT BACKGROUND	- B
EDIT SFX	- F
EDIT PLAYER LIMITATIONS	- P
EDIT ATTACH WAVES	- A
EDIT LEVELS	- L
EDIT FRONT END	- G
STORAGE	- D
EXIT SYSTEM	- X

This menu is the first menu after the **control menu**; no matter what is selected you will see this menu. However, the game in memory will vary depending upon what you selected. You can play the game or edit it just about

anyway you like. The letters off to the right are keyboard shortcuts, for instance pessing "T" will take you to the **TEST GAME menu**. From here there are three choices: PROPER TEST -- f1, CHEAT MODE -- f3, and EXIT -- X. Let's do CHEAT MODE!

A text screen will pop up with the name and a brief introduction to the game. This too can be edited. In cheat mode, you get blown up, but you have unlimited lives! I found this first game to be very much like **XESUVIOUS** (not sure on the spelling). **XESUVIOUS** was one of my all-time favorite arcade games. In cheat mode you don't have to be good at the game you write to see if things work the way you want them to. In this game, multi-color sprites and graphic backdrops are well done.

This particular game has backdrops that vary from lush green parks to outer space scenes.

Kit OVERVIEW

These games really don't have endings, you just start over. I hate that. I suppose you could make the game end, if and when you reach the end. Maybe have a background that is a congratulations sign. I have not designed a complete game with this kit, however I do know that there are some things that make them all the same. The scenery only moves from the top to the bottom, although it doesn't necessarily have to scroll. You can simply have the next screen appear when you reach the next level. You cannot go to the right or left as far as scrolling goes. Some places in the game stop scrolling until an enemy is killed or a given amount of time passes.

Unfortunately, there is no way to add music to your game without some major programming on the part of the game writer.

The EDITORS

Let's jump to the BLANK MODULE from within the **control menu**. After selecting the BLANK MODULE the **main menu** will pop up as before.

Under EDIT SPRITES we find a menu called simply EDIT SPRITE. From here you can select which sprite to edit, edit sprite, color, slide sprite, mirror, copy, erase, and exit.

Inside SELECT SPRITE you will find the actual sprite editor. If you push the joystick forward you can see that you can design up to 126 sprites in memory at one time. Actually all options from this menu take you to the same sprite editor, you just wind up at a different point within the editor as selected from the menu. If you choose slide sprite, you will wind up in the editor, however if you move the stick you will move the sprite in the left, right, up or down direction. Pressing fire will set changes from any mode and you can then edit the sprite for design.

You can have 57 objects, like enemies and so forth. The object basically defines what it is in the game: enemy, shots, death, and ship. From here you can test the object. An object may have more than one sprite: its animated sequence. You chose where it is to be on screen, and what kind of animation it will under go. You can place the same sprites in different order for different animation sequences. You can set up how many bullets it takes to annihilate the enemy, how often they fire, what sound effects they will use when firing and being destroyed. And you can copy from one object to another.

Background is built from the ground up with individual characters. These characters can be stamped onto a background individually or in large blocks. The blocks can be then be stamped or edited for what characters will go into them.

The **SFX editor** is pretty cool. There is a set of slide controls that allow you to select the wave (triangle, squire, pulse and white noise), attack, decay, pitch, the rise speed and time, and the fall speed and time. The sound can be set up differently for players 1 and 2. Sounds include: fire, explode, start, and extra life. There are eight enemy sounds for fire and explode.

You can also set up player limitations like how many lives, the speed of movement, number of bullets, how fast they are, how far they fire and how long they fire, what happens

when there is a collision with another char- acter. This editor also allows you to define how many points you need to gain another life. These can be different for each of the two players if you like.

You can edit the attack waves and place what enemies go where.

From the **levels perimeters menu** you can edit each level or screen to either scroll or stand still. The speed it moves or changes can also be set. The length of time that the screen is displayed is set and whether it is to **continue**, **loop** or **redraw**. **Continue** makes the games go on to the next level. **Loop** resets the same set up if you don't complete it; same landscape and enemy set up. **Redraw** will re-setup a still screen's background and allow for a different enemy set up.

The **level map editor** allows you to choose where in the map of background graphics each level starts and ends.

The **Front end editor** allows you make your own font set and edit your own message as well as edit the type of effect the message will have. Effects are basically what colors the words are and whether they change color and how fast to change color.

The last section allows you to save the sprites, background, sound, etc, or all data. This way you can change the sound or levels and only update what you want.

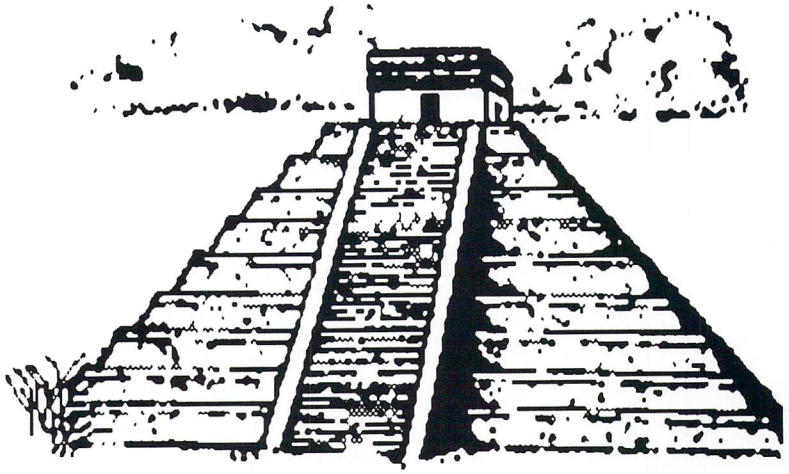
As you can see it is a very versitile and well thought out package. Editing the individual parts of a program like characters and sound may be a lot of work with this kit, it will surely make the process a whole lot easier. And after you get done with the overall design part you are finished. All the programming will be done. This is kit deserves top honors as a tool that gets things done. You supply the idea and the art, and it does all the rest.

* * * * *

Avalible from Software Support International, 2700 NE Andresen Road, Suite A-10, Vancouver, WA, 98661 for just under ten bucks from their Liquidations and Closeouts section of their summer '93 catalogue. Write for info and tell them you read about it in **dieHard!**

```
READY.
■
```

BLANK MODULE
SPACE HAWK
OUTLAW
TRANSPUTER MAN
QUIT TO BASIC



? ? ? ? ? ? ? ? ? ? ?

Q & A

"It's all hexadecimal and is meaningless to anyone typing it in!"

NOTE: When you write us with your question, be sure to give us every detail you can, like equipment used, software, specific print drivers, dip switch settings -- that sort of thing. This will help us to help you in the best possible manner. -- editors

Q: In the last issue of RUN magazine, November/December 1992, there is a program I would like to have "work." It is called **Super Sort**.

Can you look this over and tell me why it did not work. -- Barry Ashworth of Tucson, Arizona

A: This type of type-in program falls in the complains category of -- "It's all hexadecimal and is meaningless to anyone typing it in!" The program is a BASIC loader program that places hexadecimal code into the computer's memory. Without the original source code it is virtually impossible to tell what the program does.

If you have a copy of **RUN**'s checksum program, try typing it in, save it, then install it. Now load your already typed-in sort program. List it 10 or 15 lines at a time. Place the cursor on the line number of the first line. Press return and check what the checksum prints on the screen and cross-reference it with the checksum report in the program listing. Repeat the process for all lines, retyping any lines whose checksums do not match. If you find a line whose checksum cannot be matched after repeated typing, you may have found a typographic error. The error may be the checksum on the print out, so don't despair. Finish checking all lines and then save the new version to disk before running it. If the typo is in the program and not the checksum, then it's time to check out some other sources for sort programs.

A: In reply to the Q & A in the May 1993 issue of dieHard as to why the clock does not work, I suggest checking the fuse. Often a blown fuse will display the characteristics described. -- Howard Herman of New York, New York

EIC: Scot has verified this.

Q: The other day, I went up to my computer, flipped on my main power switch on the surge protector. This turns on the monitor, printer, and the disk drive. After a moment, I then turned on the power switch to the computer. And then to my astonishment, I realized that my picture was nothing but bright light. I looked at my computer, the little red indicator light was not on. I shut it off, then back on, still nothing. Maybe I blew a fuse. I found the fuse and checked it

with an ohm meter. It still worked. Now what I did was tantamount to panic. I called a local tech. He suggested the power source was at fault. He said that the only way to check this was to hook my computer up to someone else's and see if I still had the trouble. Made sense to me. Off to my friends house and yes, it turned out that it was the power source. That very day I ordered a new one from Software Hut, $19 plus shipping.

In one of your magazines I thought I read that it is OK to have everything hooked up to one surge protector. I am asking the question "do power sources just fail with age (normal wear and tear) or should I add another protector and split my power cords between them?" I use my computer on average, three to four hours at a time, every other day or so. And on weekends I have been known to stay on it all day when I start playing chess against it.

Keep up on the good work, you have a great magazine in the making. -- Marcus Krejci of Rural Retreat, Virginia

A: Placing your computer's power supply on the same surge protector as your other peripherals should cause no problems. Power supplies have a tendency to blow out now and then from getting old. In fact one of the chief causes of failure on the C64, VIC20 and Plus/4 is a power supply gone bad. It sounds like you lucked out, in many cases a bad power supply has been known to take out other components inside the computer. I hope you got a repairable power supply. They are usually more heavy duty, and that alone makes them last longer. Also, if you want the best protection, since even the repairable supplies are fallible, there is a mini-circuit breaker called the Computer Saver. It goes in line between the power supply and the computer. You can get them, for $17.95, from the Grapevine Group Inc, 3 Chestnut St., Suffern, NY, 10901.

Q: I first received my BBGram in December of 1992, I was pleased with what the program could do for me, except I was disappointed in the fact that with the current software I was only able to utilize the 2 megabites in five different and unrelated 1571 Partitions. What I want to do is access the entire 2Ms as a whole.

I ordered **gateWay 2.5** from TechMedia and a few months and a buyout later, I was the proud owner of **gateWay 2.5**. I remembered in my now lost manual, that BBG was in reality GEORAM. So I turned to the section on making a **gateWay** boot disk. I called Performance Peripherals. The person there informed me that the file called **Switcher** in **gateWay** sometimes failed to work with GEORAM. He confirmed that the computer sees

"do power sources just fail with age (normal wear and tear) or should I add another protector and split my power..."

"The person there informed me that the file called Switcher in gateWay sometimes failed to work with GEORAM."

the BBG as GEORAM. I called CMD. They said that in order to use the item, I would need a GEORAM boot disk, since **gateWay** patches itself to the **GEOS** kernel and the GEORAM kernel was slightly modified and different from the regular **GEOS** kernel.

How may one obtain a GEORAM boot disk without purchasing the GEORAM unit itself? -- Adam Hobbi of Merced, California

A: You might try writing GeoWorks and explain the problem. They might be able to sell you just the disk that goes with the GEORAM. GeoWorks, 2150 Shattuck Avenue, Berkeley, CA, 94704.

Q: I have a VCR next to the computer set up to record from cable or the computer, using the switch that came with the Commodore 64. The signal is routed from the computer to the VCR and then to a TV set.

Now I have a Commodore 128 and a Magnavox 1CM135 40/80 color monitor. I have not been able to figure out how to hook it up to the VCR. I understand that only the 40 column 64 mode output can be used, but running a connection from the 128's RF output does not work. I have not disconnected the RGBI connection and use only the RF connection because it is so much trouble and I don't know that it would work anyway. I hope you can suggest an easier alternative. -- Stephen Barcena of Mechanicsville, Virginia

A: You can plug in the 40 column output directly to the VCR as you did before since the 64 and 128 modes both go to the same composite color out. To get the 80 column display to the VCR is a little different story. If you can get a monochrome cable that is designed to go to a composite monitor you're in business. If you had your heart set on color, I don't think it is possible, due to the way the RGBI handles color. Someone somewhere *may* make a mixer to make a composite color signal from RGBI signals, but I don't know of anyone. As far as the monochrome cable goes, the Grapevine Group may have these. It has been quite awhile since I got mine. You might write them at the above address (p.16).

If you feel modivated so, you can make one. Get these items from Radio Shack:

9 pin DB male connector
P# 276-1537
9 pin DB connector hood
P# 276-1539
6 feet of RCA to RCA cable
P# 42-2367

Cut one end off of the RCA cable. Strip the wires so that you've got at least 1/4 inch, but not more than 1/2 inch. Solder the center wire to pin #7 (see page

? ? ? ? ? ? ? ? ! ! !

352 of the System Guide for the 128) on the 9 pin DB connector and the outer wire to pin #1. Make sure the wires are not touching and place the cover on the plug. I might mention here -- don't do this if you don't know what you are doing. Soldering is not to be taken lightly -- do it over a bare concrete floor with long pants, LynnCarthy Industries is not repsonsible, so on and so forth.

Now you can place the mono chrome plug RCA end on your VCR in and run the VCR out to the 40 column in on the monitor.

Q: The poke for mirror imaging the screen didn't work on my C64 -- if you have the right one I'd like to know about it. -- Premena of Boulder, Colorado.

A: The poke given was for the Atari. It was in reference to a *program* for the C64 that flipped the screen. We just happen to have the program on this month's Spinner. There is no single poke to do this on the C64.

Q: I have an old CBM Model 8032. I wonder if you have any info on where to get a disk drive and DOS for it. -- Ronald K. Maxwell of New York, New York.

A: You might write to R. Snyder, 1192 S. Nome, Suite B, Aurora, CO, 80012. He specializes in PET and CBM equipment.

Q: When I format a disk in 128 mode, it seems to format only one side. Does it save programs to the other side just the same? Or is there a problem. I cannot find this info in the manual.

Love your mag!! -- Bernard Babbie of Tupper Lake, New York.

A: I am assuming you have a C128 and a 1571 drive, since you didn't say. When you turn the drive on, then boot up your C128 in 128 mode, the drive should be in 1571 mode. Format a disk:

HEADER"diskname",IXX.

Then press <f3> to call up a directory. You should see the name of the disk and "1328 BLOCKS FREE." If it says "664 BLOCKS FREE," then something went wrong. Type:

```
OPEN15,8,15,"U0>M1":CLOSE15 <return>
```

This will put the 1571 in 1571 mode. Try the FORMAT again. NOTE: this will only work on a 1571 disk drive, *not* a 1541 drive. If you still only get 664 blocks free, there may be something wrong with the drive either electroniclly or mechanically.

```
READY.
■
```

"I have an old CBM Model 8032. I wonder you if have any info on where to get a disk drive and DOS for it."

DOS & Don'ts

DOS and Don'ts is reprinted with permission from LOADSTAR. **The Complete DOS and Don'ts** is available on 1541 disk for the 64 for $9.95, plus $4.50 Shipping for 2nd day delivery from Softdisk, P.O. Box 30008, Shreveport, LA, 71130.

Error Channel Uses

by
Joel Ellis Rea

Now you know how the Command/Error channel got its name. When information is sent to the drive through the Command/Error channel, it is considered to be a disk command. When information is requested from the drive through the Command/Error channel, it is the Disk Drive Error Status. Thus, a PRINT# 15, where Logical File Number 15 was OPENed as the Command/Error channel of a disk drive, sends a command to the drive, while INPUT# 15 asks for drive status.

As an example, let's write a short program that asks the user for the name of a file, then tells the user if that file exists on the disk or not. The way we will tell is by asking the drive to Rename the file to its own name. If the Rename succeeds, no harm is done, since the new name equals the old name! If it does not succeed, we can find out why not. One possible error message we might get back is Error #63, 'FILE NOT FOUND'.

```
10 PRINT "[CLR]"
20 OPEN 15,8,15,"I0" : GOSUB 200
30 IF ER% > 19 THEN END
40 INPUT "FILENAME"; F$
50 PRINT#15, "R0:"; F$; "="; F$
60 GOSUB 200
70 IF ER% > 29 AND ER% < 40 THEN
     PRINT "BAD FILENAME": GOTO 40
80 IF ER% = 62 THEN PRINT F$; "IS
     NOT ON THE DISKETTE!" : END
90 IF ER% = 63 THEN PRINT F$; "IS
     ON THE DISKETTE!" : END
100 PRINT "ERROR #";ER%: PRINT
  ER$ : END
200 INPUT#15, ER%, ER$, ET%, EB%
210 IF ER% = 74 THEN PRINT "DOOR
     OPEN OR NO DISKETTE"
220 IF ER% > 19 AND ER% < 30 THEN
     PRINT "BAD DISKETTE"
230 RETURN
```

This program begins by clearing the screen, then OPENing the Command/Error channel and sending an Initialize command in one step. A subroutine at line 200 obtains the disk status and puts the status code in ER%. Then it checks it against some common errors. Any error code less than 20 is considered OK.

We then ask the user for a filename (line 40) then Rename it to itself (line 50). Again we call the subroutine (line 60) to determine the Drive Status. We first check for a 'SYNTAX ERROR', which could be caused by a bad file name. Then we check for a 'FILE NOT FOUND', which would tell us that the file does not exist on the diskette. If the command succeeds, ('FILE EXISTS'), the file is on the diskette. We notify the user in either case.

The Command/Error channel is a very powerful tool which you will need to understand when you start using data files.

SEQ Files

In this installment, we will discuss how to actually use the 1541 as more than just a place to store programs. We will discuss using it as a place to put data to be used by your programs.

A 'file' is a collection of data bytes grouped together and given a name, and stored on a mass-storage device such as the 1541. These bytes may be anything that the computer can use and recognize. They may be the ASCII characters which make up text, or they may be other kinds of data. BASIC programs almost always use the ASCII means to represent data.

A file is called a 'sequential' file if it can only be accessed from beginning to end. It is called a 'relative' file if it is divided into equally-sized 'records' that can be referenced in any order. A sequential file might be used to store text, such as a letter or report; or any other information which need not be accessed in a relative fashion, but can be used sequentially.

For small amounts of data that must be accessed in a relative fashion such as a personal mailing list, it is possible to use the data in memory in the form of one or more BASIC arrays, and to store the arrays sequentially in a sequential file when the program is done with them, so they can be read in next time.

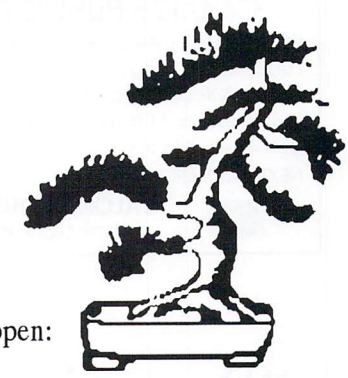
The important things to remember about sequential files are that they must be accessed from beginning to end and that (at least when used from BASIC) they hold data in a form which can be used by the BASIC INPUT# statement. That means that each data item, meaning each piece of data that will go to a particular variable, must be separated from adjacent pieces of data in the file by a comma or a carriage return. For example, if you had a BASIC program that asked a question such as:

```
50 INPUT "WHO ARE YOU AND HOW OLD ARE YOU"; NA$, AGQ
```

it would display:

```
WHO ARE YOU AND HOW OLD ARE YOU? ■
```

and you could choose to answer either by separating your name and age with a comma, as in:



```
WHO ARE YOU AND HOW OLD ARE YOU? JOEL REA, 25
```

or by pressing RETURN, as in:

```
WHO ARE YOU AND HOW OLD ARE YOU? JOEL REA
?? 25
```

But if you didn't separate them, or tried to use another character as a separator, this would happen:

```
WHO ARE YOU AND HOW OLD ARE YOU? JOEL REA 25
?? ■
```

The program would assign 'JOEL REA 25' to NA$, and still need data for AG! As far as a BASIC program is concerned, a sequential file is merely stored INPUT. Thus, when writing to the file, you must write a separator between each piece of data. This separator can be a comma or a carriage return (CHR$(13)). I recommend using the return by assigning it to the variable R$ near the beginning of your program:

```
10 R$=CHR$(13): REM CARRIAGE RETURN FOR DATA SEPARATOR IN FILE.
```

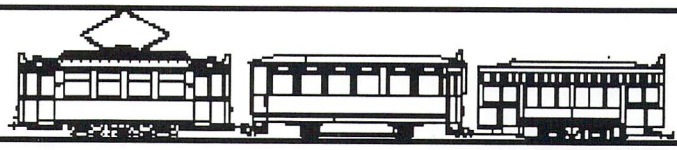
Then you can use it easily when you need to write data:

```
160 PRINT#8, NA$; R$; AG
```

A return is automatically written after the data in a PRINT# statement if no comma or semicolon appears at the end of the statement (just like PRINTing to the screen!).

To be continued...

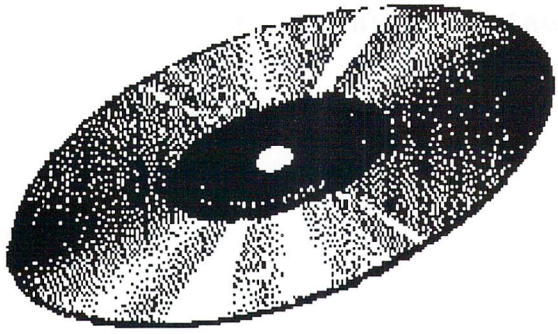
```
READY.
■
```



THE WINGS OF CIRCE
A TALE OF MYTH AND LEGEND
C-64 or C-128 in 64 mode
ARCADE/ROLE PLAYING GAME
Assume the role of Circe and Pegasus!
Battle wizards and dragons!
$19.95 Check or Money Order
CREATIVE PIXELS LTD.
P.O. BOX 592, LIBRARY, PA 15129

C64/128 PUBLIC DOMAIN SOFTWARE
REQUEST FREE CATALOG or send $2 for sample disk and catalog (REFUNDABLE). Categories include education, utilities, games, business, PRINT SHOP graphics, pre-tested programs and more. Rent for 75¢ or buy as low as $1.00 per disk side or for 80¢ for 70 or more. $20 order gets 4 free disks of your choice.
NEXT DAY SHIPPING! SINCE 1986
MasterCard **CALOKE INDUSTRIES (Dept. GK)** VISA
PO BOX 18477, RAYTOWN, MO 64133

"Power's on, but the system hasn't booted."



"...to hell with ROM, I want CD-RAM!"

Trader's Corner

Got something to trade? Need something? Try here. Maybe one of our readers has just what you're looking for. Or perhaps they want what you have. Trader's Corner is free to subscribers looking to trade or buy. (If you want to sell something you'll have to take out a classified, they are $0.25/word.) All **TCs** will be listed for three months. Write to **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: Books, magazines (no **Gazette**, I have complete run) for VIC 20, C64/128. Ram expansion for VIC20. Books, magazines, programs for the Timex/Sinclair 1000. Have cash or Commodore magazines (**Gazette**, **Run**, **Ahoy**) to trade. Doug Wagoner #000158, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: Books on any computer, old, new, never released, etc. BLC #000000, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, Idaho, 83701.

Wanted: **Shadow of the Beast** cartridge for the 64/128, **Echelon** for C128, and **Qix** for C128. Barry Hom #000168, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: 1. **The Omnicrom Conspiracy** by Epex. 2. **Purple Saturn Day** by Epex. I have over 400 programs that I will trade for, or I will buy the two games listed above. Craig Shepley #002042, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: Anyone out there have a working **Write Now** cartridge with which they would part? (CardCo) Walter C. Erbach #000286, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: Two Plus/4 computers. Mr. Oran Sands #001801, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: I am interested in obtaining a copy of Len Lyons book "Using the Commodore 64," published by Addison-Wesley of Reading, Mass. Bob Grunwald #002547, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: **Speedscript64** most recent version. **Phone List** additions automatically alphabatized. Donald H. Webber #001188, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

Wanted: Original **Compute!**, **RUN**, **Ahoy**, & **Trancactor** disks. Pre-volume 5 **Transactor** mags. R. Scot Derrer #0000B, c/o **dieHard**, Trader's Corner, P. O. Box 392, Boise, ID, 83701.

READY.
■

PRG

by Brian L Crosthwaite

Welcome to **PRG**. This is the section of **dieHard** that is traditionaly type-in programs. This month that steadfast rule holds true. While normally, the programs within the pages of **dieHard** are copyrighted and cannot be distributed freely, this month we have something a little different. This month we are featuring Public Domain programs.

Both the type-in programs and the programs found on this month's **Spinner** are all in the public domain. That means you can give your friends copies of the August **Spinner** and not have to wear a patch on your eye or have that pesky parrot on your shoulder.

We have some DEMOs, games, and a couple of utilities. This is just a brief overview of what things are. In fact, since we have so much, we have two disks for the **Spinner** this month!

The following is a list of what's on the **Spinner.** The names listed here are a little different from what they are on disk. Some programs may run on a computer other than just the one it is listed under! So don't hesitate to try them on other machines.

To the best of our knowledge, these programs are in the Public Domain. If a program is found not to be in the Public Domain, please let us know and we will remove it from our PD 93 collection.

I'd like to thank each and every programmer/artist who has spent many hours writing and creating the wares presented here. Although some of the program's authors are unknown to us today, and many of these programmers may have moved on to other realms, your great work is not forgotten.

THANK YOU.

found only on the Spinner

PD

C64

Upside Down
Swinth II
Spockspeak
The Adventures of Krud!!
Get Up!
Boing
Pepsi Spin
Fatman
Fred Krueger

PRGs for the C64 will run on 64C, SX64, Educator64, and C128 & C128D (in C64 mode).

+4

Pharaoh's Needles
Star Trek
Monopoly
Labyrinth
Tic Tac Toe
Platform Diving
Forbidden Crypt
Big Mac

PRGs for the C16 will also run on +4.

C128D (C128 w/64k video RAM)

DD Megacolor 3 -- Display six, yes six, doodle pictures on 80 columns in full color at an amazing 640x**600**!!!!!

C128 & C128D

Fungraph
Alien Attack

PRGs for the C64 should run on C128 & C128D (in C64 mode).

VIC20

VIC Rhino
Alphabetize Family
Points
V Jim in Color
VIC Simon
VIC Piano
VIC Draw
Rocket Command
Outpost
Kaleidoscope
VIC Hardhat

PAG

C16

Hires Graph
Calendar
Choo Choo Train
Color Calibrate
C/G viewers 1 & 2
(plus lots of C/G pix!)

PRGs for the C16 will also run on +4.

PET/CBM

CBM 4032 V2.1
Space Weights
Pong
Pub Silliness
Hamlet

These PRGs (except **CBM 4032**) will run on the PET, CBM, C64, 64C, SX64, Educator64, and C128 & C128D (in C64 mode). To run on an 80 column CBM, run **CBM 4032** first.

Be sure to read TIPE RITE on page 28
before you type in any of these programs!

PRG

ENGLISH DARTS (C64)

by
unknown

This is a nice little dart game for one or multiple players. Game play is self-explanatory. The program is easy to use and the game is very addictive. For the C64.

```
100 REM: ***ENGLISH DARTS*** *
    INITIALIZATION *
116 PRINT"[CLR]":POKE808,234
120 C$=CHR$(147):D$=CHR$(17):
    H$=CHR$(19):F$=CHR$(144):
    RF$=CHR$(146):RO$=CHR$(18)
125 C1$=CHR$(28):C2$=CHR$(30):
    C3$=CHR$(31):C4$=CHR$(156):
    C5$=CHR$(158):BC=53280
130 C6$=CHR$(159):V=53248:CL=646:
    S=102:NA$="*ENGLISH
    DARTS*":A$="":SN$="":B$=""
135 RD=1:POKE53281,1:POKEBC,9:
    FORK=0TO62:READA:POKE832+K,A:NEXT
140 FORK=0TO62:READA:POKE896+K,A:
    NEXT:FORK=49152TO49245:READA:
    POKEK,A:NEXT
145 POKE49152+19,0:POKE2041,13:
    POKE2042,14:POKE2043,14:
    POKE2044,14:SYS49152
155 REM: ***BILLBOARD***
165 GOSUB700:GOSUB555:PRINT:PRINT:
    PRINTF$TAB(12)NA$:GOSUB680
170 PRINTC2$RO$TAB(13)" WHICH GAME?
    ":PRINT:PRINTTAB(8)"301 "RO$" <1>
    ";
175 PRINTRF$" OR 501 "RO$" <2> ":PRINT
180 GETK$:K=VAL(K$):IFK<1ORK>2THEN180
185 IFK=1THENGA=301:GOTO195
190 GA=501
195 PRINTRO$TAB(7)" NUMBER OF PLAYERS?
    "RF$" (1-7)"
200 GETK$:Z=VAL(K$):IFZ<1ORZ>7THEN200
205 GOSUB585
215 REM: ***SCREEN PRINT***
225 POKEBC,1:PRINTH$RO$"[12 SPACE]
    "NA$"[8 SPACE]"
230 PRINTC5$RO$" PLAYER NUMBER "RF$PP;
235 PRINTC3$RO$TAB(20)" DART NUMBER
    [3 SPACE]"RF$TH
240 PRINTC4$RO$" ROUND SCORE
    [3 SPACE]"RF$RS;
245 PRINTC1$RO$TAB(20)" ROUND NUMBER
    [2 SPACE]"RF$RD
250 PRINTC2$RO$" CURRENT SCORE
    "RF$TP(PP);
255 PRINTC6$RO$TAB(20)" # OF PLAYERS
    [2 SPACE]"RF$Z:GOSUB680:FORK=1TOZ:
    CC=K+1:POKECL,CC
260 PRINTRO$TAB(21)" PLAYER #
    "RF$K;:PRINTTP(K):NEXT:GOSUB680
265 PRINTC4$TAB(1)A$:PRINT:PRINTF$
    TAB(7)SN$:PRINT:PRINTC4$TAB(4)B$:
    PRINT
270 IFTH>3THENGOSUB640:FORK=1TO9:
    POKEV+K,0:NEXT:GOSUB585:GOTO225
275 POKE198,0:GOSUB640:PRINTC5$"PRESS
    "RO$F$"<KEY>"RF$C5$" TO TOSS"
285 REM: ***THROW SEQUENCE***
295  FORK=1664TO1683:POKEK,32:NEXT:
    FORK=1744TO1763:POKEK,32:NEXT
300 FORK=1824TO1843:POKEK,32:NEXT:
    IFTH=1THENQ=4:W=5:Y=215:G=6: GOTO315
305 IFTH=2THENQ=6:W=7:Y=211:G=14:
    GOTO315
310 IFTH=3THENQ=8:W=9:Y=219:G=30
315 POKEV+21,G:POKEV+23,2:POKEV+29,28
    :FORK=1TOZ:IFK=PPTHENCC=K+1: GOTO325
320 NEXT
325 POKEV+40,11:FORK=41TO43:
    POKEV+K,CC:NEXT:POKEV+2,255:
    POKEV+3,90
330 FORL=90TO110:POKEV+Q,30:POKEV+W,L
    :IFPEEK(198)=1THEN350
335 FORT=1TO10:NEXTT:NEXTL
340 FORL=110TO90STEP-1:POKEV+Q,30:
    POKEV+W,L:IFPEEK(198)=1THEN350
345 FORT=1TO10:NEXTT:NEXTL:GOTO330
350 FORK=1904TO1923:POKEK,32:NEXT:
    POKEV+Q,0:POKEV+W,0:POKE198,0:
    POKEV+21,G
355 FORK=30TOY:POKEV+Q,K:POKEV+W,L:
    NEXT:GOSUB660:R=N:GOSUB660:D=N
360 A=0:FORK=80TO99:A=A+1:IFL=KTHEN380
365 NEXT
370 A=21:FORK=101TO110:A=A-2:IFL=K
    THEN380
375 NEXT:IFL=100THENA=50
380 IFA=50THENB=A:A$="YOU THREW
    A...":SN$="BULLSEYE!":GOTO405
385 IFA=RANDA=DTHENB=A*3:A$="YOU THREW
    A TRIPLE":GOTO400
390 IFA=RTHENB=A*2:A$="YOU THREW A
    DOUBLE":GOTO400
395 B=A:A$="YOU THREW A SINGLE"
400 SN$=STR$(A)
405 B$="FOR"+STR$(B)+" POINTS"
    :TP(PP)=TP(PP)+B:RS=RS+B
410 IFTP(PP)=GATHENFORK=1TO9:
    POKEV+K,0:NEXT:GOTO475
415 IFTP(PP)>GATHENFORK=1TO9:
    POKEV+K,0:NEXT:GOTO440
420 TH=TH+1:GOTO225
430 REM: ***BROKE STATEMENT***
440 POKEBC,2:GOSUB700:GOSUB555:
    GOSUB680
445 PRINTC4$TAB(14)"YOU THREW"B:
    PRINT:PRINTTAB(18)"AND":PRINT
450 PRINTF$TAB(14)"B*R*O*K*E!!":
    PRINTC4$:GOSUB640:TP(PP)=TP(PP)-B
455 RS=0:TH=1:GOSUB585:FORK=1TO9:
    POKEV+K,0:NEXT:GOTO225
465 REM: ***WINNER STATEMENT***
475 POKEBC,5:GOSUB700:GOSUB555:
    GOSUB680:PRINTC4$TAB(5)NA$" WINNER
    IS..."
480 PRINT:GOSUB640:PRINTF$TAB(10)
    "PLAYER NUMBER"PP:PRINT
485 PRINT:PRINTC4$TAB(8)"SEE FINAL
    SCORES? (Y/N)"
490 GETK$:IFK$=""THEN490
495 IFK$="Y"THENPP=Z:NU=1:GOTO585
500 IFK$="N"THEN515
505 IFK$<>"Y"ORK$<>"N"THEN490
510 GOSUB680
515 PRINT:PRINTC5$RO$TAB(10)" PLAY
    AGAIN? "RF$" (Y/N)"
520 GETK$:IFK$=""THEN520
525 IFK$="Y"THENCLR:GOTO120
530 PRINTC$:GOSUB680:PRINTC2$TAB(12)
    NA$:PRINT:PRINTTAB(17)"E*N*D":
    GOSUB640
535 POKEV+21,0:PRINTC$:END
545 REM: ***SPRITE LOGO***
555 POKEV+21,30:POKEV+23,2:
    POKEV+29,28:POKEV+40,12:
    POKEV+41,11:POKEV+42,12
560 POKEV+43,15:POKEV+2,180:
    POKEV+3,100:POKEV+4,144:POKEV+5,104:PO
    KEV+6,147
565 POKEV+7,111:POKEV+8,142:
    POKEV+9,118:RETURN
575 REM: ***NEXT PLAYER/BOX SCORE
    SUBROUTINE***
585 POKEBC,5:GOSUB700:GOSUB555:TH=1:
    RS=0:PP=PP+1:IFPP>ZTHEN600
590 GOSUB680:PRINTC2$TAB(8)"PLAYER
    NUMBER"F$PP;:PRINTC2$"UP
    NEXT":GOSUB640
595 FORK=1TO9:POKEV+K,0:NEXT:A$="":
    SN$="":B$="":PRINTC$:RETURN
600 PRINT:PRINT:PRINTC2$RO$TAB(4)
    " PLAYER NUMBER "TAB(25)" POINTS
    ":PRINT:PRINT
605 FORK=1TOZ:CC=K+1:POKECL,CC:PRINT
    TAB(10)K;:PRINTTAB(26)TP(K):PRINT:
    NEXT
```

PD

```
610 PRINTH$:FORK=1TO22:PRINTD$;:NEXT
    :PRINTC4$RO$TAB(12)" PRESS ANY
    KEY "
615 POKE198,0:WAIT198,1:POKE198,0:
    RD=RD+1:PP=0:IFNU=1THENGOSUB700:G
    OTO510
620 GOTO585
630 REM: ***TIME DELAY SUBROUTINE***
640 FORT=1TO1500:NEXT:RETURN
650 REM: ***RANDOM SUBROUTINE***
660 N=INT(20*RND(0))+1:RETURN
670 REM: ***CENTER SUBROUTINE***
680 PRINTH$:FORK=1TO15:PRINTD$;:NEXT
    :RETURN
690 REM: ***BORDER SUBROUTINE***
700 PRINTC$:POKECL,7:FORK=1024TO1063
    :POKEK,S:NEXT:FORK=1024TO1984
    STEP40:POKEK,S
705 NEXT:FORK=1063TO2023STEP40:
    POKEK,S:NEXT:FORK=1984TO2023:
    POKEK,S:NEXT:RETURN
725 DATA0,16,0,0,56,0,0,85
730 DATA0,0,146,0,1,17,0,2
735 DATA56,128,5,85,64,8,146,32
740 DATA17,85,16,34,56,136,127,255
745 DATA252,34,56,136,17,85,16,8
750 DATA146,32,5,85,64,2,56,128
755 DATA1,17,0,0,146,0,0,84
760 DATA0,0,56,0,0,16,0,0
765 DATA0,0,0,0,0,0,0,0
770 DATA0,0,0,0,0,0,0,0
775 DATA0,0,0,0,240,0,0,127
780 DATA0,0,63,254,0,31,255,255
785 DATA63,254,0,127,0,0,254,0
790 DATA0,0,0,0,0,0,0,0
795 DATA0,0,0,0,0,0,0,0
800 DATA0,0,0,0,0,0,173,21
805 DATA192,141,22,192,120,169,24,141
810 DATA20,3,169,192,141,21,3,88
815 DATA96,5,0,20,0,0,206,22
820 DATA192,208,61,173,21,192,141,22
825 DATA192,173,33,208,41,15,141,20
830 DATA192,160,0,132,251,169,216,133
835 DATA252,238,23,192,173,23,192,41
840 DATA1,170,177,251,41,15,205,19
845 DATA192,240,5,205,20,192,208,5
850 DATA189,19,192,145,251,200,208,234
855 DATA230,252,165,252,201,220
    ,208,226
860 DATA76,49,234,52
```

BACKGAMMON (PLUS/4)

by
unknown

This one for the Plus/4 will give you a very challenging game of Backgammon. I swear that as I was playing my usual best and very close to totally gammoning the computer, that it cheated, rolling doubles several times in a row. (I still won.) I've played computer Backgammon before but never felt quite as challenged as I did with this one.

```
100 CT=2048:COLOR0,1
110 L$="[39 SPACES]":A=RND(0)
120 PRINT"[CLR][CYN][7 DOWN]"TAB(14)
    "BACKGAMMON":PRINTTAB(14)"£££££££
    ££"
130 INPUT"[2 DOWN] WILL I GO FIRST
    [2 SPACE]Y[3 LEFT]";MF$
140 DIMB(25):DIMR(3):DEFFNR(X)=
    INT(RND(X)*6)+1
150 DEFFNP(X)=CT-((X-(X>6))*40+Y)*
    (X<13)-((26-(X+(X<19)))*40-Y-1)*
    (X>12)
160 DATA 2,0,0,0,0,-5,0,-3,0,0,0,5,-5,
    0,0,0,3,0,5,0,0,0,0,-2
170 FORX=1TO24:READB(X):NEXTX
180 PRINT"[CLR][RVON][GRN]
    [15 SPACES]BACKGAMMON
    [15 SPACES]";:FORX=1TO12
190 PRINTCHR$(64+X);"[RVOF][BLK]
    [38 SHIFT Q]";CHR$(89-X);
200 IFX=6THENPRINT"[3 SPACE]BAR
    [3 SPACE][RVOF][BLK]
    [22 SHIFT Q][GRN][RVON]
    [3 SPACE]BAR[3 SPACE]";
210 NEXTX:PRINT" [RVOF][38 C= P]
    [RVON] ";
220 PRINT"[RVOF][YEL]PLAYER [SHIFT
    Q](4 SPACES)[BLU]
    COMPUTER [SHIFT Q]"
230 FORX=1TO24:IFB(X)=0THEN270
240 Z=ABS(B(X)):IFZ>10THENZ=10
250 FORY=1TOZ
260 POKEFNP(X),86.5-SGN(B(X))/2:NEXTY
270 NEXTX:X=1:Z=CT+310
280 IFX<7ANDX<=B(0)THENPOKEZ,86:Z=Z-1
    :X=X+1:GOTO280
290 X=1:Z=CT+289
300 IFX<7ANDX<=-PBTHENPOKEZ,87:Z=Z+1
    :X=X+1:GOTO300
310 GOSUB1180:GOSUB1150:PRINT"[CYN]";
320 IFLEFT$(MF$,1)="N"THENPRINT"
    PLAYER ";:GOTO340
330 PRINT"COMPUTER ";
340 PRINT"ROLL";:IF
    F$="DR"ORT$="DRAW"THEN360
350 R(0)=FNR(X):R(1)=FNR(X):R(2)=0:
    R(3)=0:IFR(0)=R(1)THENR(2)=R(1):
    R(3)=R(1)
360 FORX=0TO3:IFR(X)>0THENPRINT"
    [RVON]";CHR$(R(X)+48);"[RVOF]";
370 NEXTX:PRINT
380 IFLEFT$(MF$,1)="N"THEN830
390 PRINT"THINKING...[UP]"
400 OB=0:FORZ=0TO18:IFB(Z)>0THEN420
410 NEXTZ:OB=1
420 H=0:HP=0:HR=0:FORY=0TO3:X=0:
    IFR(Y)=0THEN580
430 E=0
440 IFB(X)<1ORR(Y)+X>25THEN570
450 IFX=0ANDB(X)>0THENE=E+128
460 IFX+R(Y)=25THENE=E+64
470 IFB(X)=1ANDB(X+R(Y))=1THENE=E+32
480 IFB(X)<>2ANDB(X+R(Y))>0THENE=E+16
490 IFB(X+R(Y))=-1THENE=E+8
500 IFX<19THENE=E+4
510 IFB(X+R(Y))<-1OR(OB=0
    AND(X+R(Y))=25)THEN570
520 E=E+1:IFY=3ORX+R(Y)=25 OR
    B(X+R(Y))>0THEN560
530 Z=Y+1
540 QA=0:IFR(Z)>0ANDX+R(Y)-R(Z)>-1AND
    X+R(Y)-R(Z)<25THEN QA=1
545 IFQA=1THENIFB(X+R(Y)-R(Z))>0THEN
    E=E+2:GOTO560
550 Z=Z+1:IFZ<4THEN540
560 IFH<ETHENH=E:HR=R(Y):HP=X
570 X=X+1:IFX<25THEN430
580 NEXTY
590 IFH<128ANDB(0)>0THEN680
600 IFH>0THEN700
610 LR=7:FORY=0TO3
620 IF
    R(Y)<LRANDR(Y)>1THENLR=R(Y):LN=Y
630 NEXTY:IFLR=7THEN680
640 FORX=0TO25-LR:IFB(X)>0THEN680
650 NEXTX:X=26-LR
660 IFB(X)>0THENR(LN)=25-X:GOTO400
670 X=X+1:IFX<25THEN660
680 PRINT"[2 DOWN][6 SPACES][RVON]CAN
    NOT MOVE - PRESS A
    KEY[RVOF]":MF$="N"
690 GETA$:ON-(A$="")GOTO690:GOTO310
700 FORX=0TO3:IFR(X)<>HRTHENNEXTX
710 R(X)=0
```

PRG

```
720 IFB(HP)<11ANDHP>0THENY=B(HP):
    POKEFNP(HP),0
730 B(HP)=B(HP)-1:Z$=CHR$(HP+HR+64):
    IFHP+HR>24THENZ$="OFF"
740 X$=CHR$(HP+64):IFHP=0THENX$="BAR"
750 PRINT"MOVE FROM ";X$;" TO ";Z$
760 IFB(HP+HR)=-1THENPB=PB-1:
    B(HP+HR)=0:IFPB>-7THEN
    POKECT+288-PB,87
770 IFHP=0ANDB(0)<8THEN
    POKECT+310-B(0),0
780 Y=B(HP+HR)+1:B(HP+HR)=Y
790 IFHP+HR<25ANDY<11THEN
    POKEFNP(HP+HR),86:GOTO810
800 IFB(25)=15THENGOSUB1150:PRINT"I
    WIN.":GOTO 1190
810 FORX=0TO3:IFR(X)>0THEN390
820 NEXTX:PRINT"[HOME]
    [7 DOWN]"SPC(14)"[RVON]PRESS A
    KEY":MF$="N":GOTO690
830 F$="@":PRINT"MOVE
    FROM";:IFPB<0THENPRINT
    " BAR":HP=25:F$="Y":GOTO880
840 INPUTF$:F$=LEFT$(F$,2):IFF$="NO"
    THENMF$="":GOTO310
850 IFF$="DR"THEN180
860 IFF$<"A"ORF$>"X"THEN1140
870 HP=ASC(F$)-64:IFB(HP)>=0THEN1140
880 T$="@":INPUT"[8 LEFT]TO";T$:
    HP=ASC(F$)-64:HR=ASC(F$)-ASC(T$)
890 IFT$="NO"THENMF$="":GOTO310
900 IFT$="DRAW"THEN180
910 X=0:IFT$="OFF"THENHR=HP
920 PRINTL$;"[UP][RIGHT]";
930 FORX=0TO3:IFHR<>R(X)THENNEXTX:
    ON-(HR<>HP)GOTO1140
940 OB=X:IFHR<>HPTHEN990
950 Z=HP+1:FOROB=0TO3:IFR(OB)=HP
    THENZ=7:GOTO970
960 IFR(OB)<HPTHENNEXTOB:GOTO1140
970 FORX=ZTO24:IFB(X)<0THEN1140
980 NEXTX
990 IFB(HP-HR)>1ANDHP<>HRTHEN1140
1000 QA=0:IFB(HP-HR)>0ANDHP<>HRTHEN
    B(HP-HR)=0:B(0)=B(0)+1:QA=1
1010 IFQA=1ANDB(0)<7THENPOKE
    CT+311-B(0),86
1020 Y=-PB:M=7:Z=CT+288+Y:PB=PB+1
1030 IFHP<25THENPB=PB-1:Y=-B(HP):
    B(HP)=B(HP)+1:Z=FNP(HP):M=11
1040 IFY<MTHENPOKEZ,0
1050 IFHP=HRTHEN1100
1060 Y=B(HP-HR)-1:B(HP-HR)=Y:
    IFB(HP-HR)>10THEN1120
1070 Y=-Y:Z=FNP(HP-HR)
1080 IFY<11THENPOKEZ,87
1090 GOTO 1120
1100 PO=PO+1
1110 IFPO=15THENGOSUB1150:PRINT"YOU
    WIN.":GOTO 1190
1120 R(OB)=0:FORX=0TO3:IFR(X)>0THEN830
1130 NEXTX:MF$="":GOTO310
1140 PRINT"ILLEGAL MOVE
    [12 LEFT][UP]";L$;"[UP]":GOTO830
1150 POKE205,16:PRINT
1160 FORX=1TO5:PRINTL$:NEXTX:PRINTL$;
1170 POKE205,16:PRINT:RETURN
```

COLOR TEST (C16)

by
S.M.B.

This program for the C16 and Plus/4 will put a full spectrum grid on your screen displaying the powerful TED chips luminosity capabilities. This program is great to assist in adjusting your monitor's display.

```
100 REM COLOR TEST BY - SMB
110 COLOR 0,1:COLOR4,1:REM BORDER AND
    SCREEN BLACK
112 REM PRINT THE COLORED SQUARES
120 PRINT"[CLR]";
130 FOR LUM = 7 TO 0 STEP -1
140 FOR COL = 1 TO 16
150 COLOR 1,COL,LUM
160 PRINT "[RVON](2 SPACES)[DOWN]
    [2 LEFT][C=P][UP]";
170 NEXT COL
180 PRINT"[DOWN]"
190 NEXT LUM
200 COLOR1,2,3
202 REM PRINT THE DIAGONAL LINES
210 FOR I = 0 TO 15
220 PRINT"[HOME][16 DOWN]"TAB(2+2*I)
    "[SHIFT M][DOWN][SHIFT M][DOWN]
    [SHIFT M][DOWN][SHIFT M][DOWN]
    [SHIFT M][DOWN][SHIFT M][DOWN]
    [SHIFT M][DOWN][HOME]":NEXT
222 REM PRINT THE COLOR NAMES
230 COLOR 1,2
240 FORI = 1 TO 15
250 PRINT"[HOME][16 DOWN]"TAB(1+2*I);
260 READ CO$
270 FOR J = 1 TO LEN(CO$)
280 PRINT MID$(CO$,J,1)"[DOWN]";:NEXT
290 NEXT
300 PRINT"[HOME]";:FORI=7 TO 0 STEP -1
310 PRINTTAB(32)"LUM"I:PRINTTAB(32)"
    [5 C= T]":NEXT
312 REM WAIT FOR A KEY TO EXIT
320 GETA$:IFA$=""THEN320
330 PRINT"[CLR]":END
340 DATA WHITE,RED,CYAN,PURPLE
350 DATA GREEN,BLUE,YELLOW
360 DATA ORANGE,BROWN,LIME,PINK
```

CIRCLES (C16, Plus/4)

by
unknown

This program draws 14 circles on the screen and fills them in. But, that's not all. Don't run this one when you're sleepy and have things to do because you won't do them. Maybe we should call this one the *Twilight Zone extra!*

```
10 GRAPHIC 3,1:REM MULTICOLOR GRAPHICS
20 COLOR 0,1:COLOR
    4,1:COLOR1,1:COLOR2,3,2:
    COLOR3,10,3 :C=1:CL=3
30 FORI=5 TO 70 STEP 5
35 C=C+1:IFC=4THENC=2:REM INCREMENT
    COLOR
36 IFC=2THENCOLOR2,CL,3:CL=CL+1:REM
    CHANGE TO NEXT COLOR
40 CIRCLE 1,80,100,I,I+30
50 LOCATE +0,+2
60 PAINT C,,1:REM FILL IN CURRENT
    CIRCLE
```

FUNCTION KEYS (VIC 20)

by
unknown

Make defining your VIC20's function keys a breeze with this short, but powerful utility. Quotes are accepted with no problems. This is an important addition to any serious VIC programmer's library.

```
5 F=0:C=PEEK(55)-120:IFC<0THEN
    C=C+256:F=-1
10 D=PEEK(56)+F:POKE55,C:POKE56,D:CLR
15 S=828:I=146:GOSUB100
20 DATA32,198,3,165,55,133,251,133,
    253,165,56,133,252,133,254,169,49,
    133,0,169
25 DATA133,133,1,169,13,32,210,255,
    169,70,32,210,255,165,0,32,210,25
```

PD

```
    ,169,61
30  DATA32,210,255,169,63,32,210,
    255,169,32,32,210,255,32,207,255,
    72,160,0,165
35 DATA1,145,55,104,32,198,3,201,
    13,240,14,201,95,208,2,169,13,145
    ,55,32
40 DATA207,255,76,124,3,230,0,165,0,
    41,1,208,10,24,165,1,105,4,133,1
45 DATA 76,170,3,56,165,1,233,3,133,
    1,165,0,201,57,144,163,120,169,
    L0,141
50 DATA 20,3,169,H0,141,21,3,88,169,0,
    133,0,32,68,198,76,116,196,166,55
55 DATA 208,2,198,56,198,55,96
60 S=PEEK(55)+256*PEEK(56):I=119:
    GOSUB100
65 SYS(828)
70 DATA165,0,240,59,160,0,177,251,
    32,L99,H0,176,12,165,55,197,251,
    208,21,165
75 DATA56,197,252,208,15,169,0,133,
    0,165,253,133,251,165,254,133,
    252,76,191,234
80 DATA 166,198,177,251,157,119,2,230,
    198,32,L111,H0,165,198,201,11,
    144,204,230,0
85 DATA 76,191,234,165,215,32,L99,H0,
    176,3,76,191,234,165,8,41,1,208,
    247,160
90 DATA 0,177,251,197,215,208,6,32,
    L111,H0,76,L6,H0,32,L111,H0,76,L8
    1,H0,201
95 DATA 133,144,6,201,141,176,2,56,96,
    24,96,166,251,208,2,198,252,198,2
    51,96
100 F=0:FORD=STOS+I:READA$:IF
    ASC(A$)<58THENA=VAL(A$):GOTO115
105 IFASC(A$)=76THENA=
    VAL(RIGHT$(A$,LEN(A$)-1))+
    PEEK(55):IFA>255THENA=A-256:F=1
110 IFASC(A$)=72THENA=
    VAL(RIGHT$(A$,LEN(A$)-1))+
    PEEK(56)+F:F=0
```

UFO PILOT (VIC 20)

by

Bud Banis

Arcade action for the VIC20, using the VIC's redefinable character set for near-sprite animation. Don't run into enemy ships or your own exhaust trail or you will meet certain death. Enjoy!

```
1 SS=24:POKE36879,63:POKE36878,15:
    DIMJS(2,2)
2 PRINT"[CLR]":PRINTSPC(5):
    PRINT"*************":PRINTSPC(5)
3 PRINT"**[RVON]UFOPILOT[RVOF]**":
    PRINTSPC(5)"*************":PRINT
    "[5 SPACE]*[2 SPACE]7-28-82
    [2 SPACE]*"
4 PRINTSPC(5):PRINT"*************":
    PRINT"[DOWN](6 SPACES)BY BUD
    BANIS";SPC(8);"BOURBONNAIS,ILL.
5 PRINT"[3 DOWN][2 SPACE]SET DIRECTION
    OF ":PRINT"[4 SPACE]SHIP WITH THE"
6 POKE37139,0:DD=37154:PA=37137:
    PB=37152:PRINT"[5 SPACE]JOYSTICK"
7 PRINT"[DOWN][2 SPACE]DON'T RUN INTO
    YOUR":PRINT"[4 SPACE]OWN TRAIL OR
    HIT"
8 PRINT"[5 SPACE]THE WARPLANE."
    :PRINT"[2 DOWN][4 SPACE]HIT FIRE
    TO START
9 FORAA=0TO21:POKE7812+AA,88:
    POKE38532+AA,9:GOSUB9000:
    IFFRTHEN19
10 IFAA=10THENFORTY=0TO15:
    POKE36878,15OR16*TY:POKE36874,244:
    FORM=1TO50:NEXT:NEXT
11 POKE36878,15
12 POKE36874,234+AA:POKE36874,0:
    POKE7812+AA,32:NEXT:CS=SSAND7
13 FORAA=0TO21:POKE7701-AA,60:
    POKE38421-AA,9:POKE7878+AA,62
14 POKE38598+AA,9:GOSUB9000:IFFRTHEN19
15 POKE36874,215:FORTT=1TO40:NEXT:
    POKE36874,0:POKE36875,255-5*AA
16 FORTT=1TO10:NEXT:POKE36875,0:
    POKE7878+AA,32:POKE7701-AA,32:NEXT
17 PS=8+16*INT(SS/8)+CS:POKE36879,PS
    :SS=SS+1:IFPS=255THENSS=0
18 GOTO9
19 FORI=0TO2:FORJ=0TO2:READJS(J,I):
    NEXTJ,I
20 FF=505:PRINT"[CLR][RVON]
    [45 SPACES]"
22 XX=0:AD=0:GOSUB10000:IFSC>PHTHEN
    PH=SC
24 POKE7680+FF,88:POKE38400+FF,9:
    GOSUB9000:IFJS(X+1,Y+1)=0THEN24
29 SC=0:YY=22:GOSUB10000
30 GOSUB9000:GOSUB8000:QQ=FF:XZ=ZX:
    ZX=XX+22*YY
31 PRINT"[HOME][RVON][15 SPACES]"
    :PRINT"[HOME][RVON][2 SPACE]
    SCORE=";SC;"[2 SPACE]"
32 IFJS(X+1,Y+1)THENAD=JS(X+1,Y+1):
    POKE36876,220
33 POKE36876,0
35 POKE7680+FF,46:POKE38400+FF,1
40 FF=FF+AD:IFFF<44THENFF=QQ:GOTO9500
42 IFPEEK(7680+FF)=62THEN9500
45 IFPEEK(7680+FF)=46THEN9500
46 POKE7680+FF,88:POKE38400+FF,9
47 IFFF=XZTHEN9500
50 IFFF>505THENFF=QQ:GOTO9500
55 BL=(255-INT(ABS(XX+22*YY-FF)/2)
    OR128)
56 POKE7680+XZ,32:IFPEEK(7680+ZX)=88
    THEN9500
58 POKE7680+ZX,62:POKE38400+ZX,9
59 POKE36874,BL:POKE36874,0
70 GOTO30
100 DATA-23,-22,-21,-1,0,1,21,22,23
8000 SC=SC+1:XX=XX+1:IFXX=22THENXX=0:
    YY=INT(FF/22)
8020 RETURN
9000 POKEDD,127:S3=-((PEEK(PB)AND128)=
    0):POKEDD,255
9010 P=PEEK(PA):S1=-((PAND8)=0):
    S2=((PAND16)=0):SO=((PAND4)=0)
9020 FR=-((PAND32)=0):X=S2+S3:Y=SO+S1:
    RETURN
9500 POKE36879,138:POKE36877,220:
    POKE7680+FF,42:FORZZ=1TO100
9510 POKE38400+FF,ZZAND15:POKE36878,
    INT(15-ZZ/7):NEXT:POKE36877,0
9520 XX=0:RESTORE:POKE36879,57:
    POKE36878,15
9530 GOTO2
10000 PRINT"[HOME][RVON][15 SPACES]"
    :PRINT"[HOME][RVON][2 SPACES]
    SCORE=";SC;"[2 SPACE]"
10010 PRINT"[HOME][DOWN][RVON]PREVIOUS
    HIGH=";PH:RETURN
```

PRG

TipeRite

When entering these programs in, there are a couple of things to keep in mind.

1) All program lines start with a number. If a line in the listing does not have a number at the beginning that means it is a continuation of the previous line.

2) Be sure to type the line just as you see it. If there is more than one consecutive space it is represented by: [x SPACE] where x is the number of spaces.

3) If you see any brackets, [], these tell you that the information inside it a certain key on your key board. i.e. [CLR] means the clear key. These are found only in strings inside quotes. i.e. PRINT"[CLR] HELLO." If there is a number followed by a key name, then you press that key that many times. i.e. PRINT"[2 HOME]" means to press the home key twice.

4) Multiple key combinations are also listed this way. i.e. [SHIFT 2] means to press and hold the shift key and press the 2 key. Also, [2 SHIFT 2] means to press the shift 2 key combination twice.

5) The abbreviations used this month for the keys are not our standard notation. Unfortunately, Scot had used the translation his printer interface produced and I didn't realize it until too late. The translations are, however, fairly logical and easy to interpret.

Here they are and what they mean:

as they appear	normally used	what they mean
[UP]	[crsr up]	type cursor up
[DOWN]	[crsr down]	type cursor down
[RIGHT]	[crsr right]	type cursor right
[LEFT]	[crsr left]	type cursor left
[BLU]	[ctrl 7]	type <control> <7> for the color blue. All colors are fairly similar. <C=> is used to access some colors.
[RVON]	[rvs on]	type <control> <9> to turn on the reverse video
[RVOF]	[rvs off]	type <control> <0> to turn off the reverse video
[SPACE]	[space]	type <space>
[CLR]	[CLR]	type <shift><clr/home>
[HOME]	[HOME]	type <home>

6) Be sure to check the introductions for any additional instructions that may not be in the program.

7) Check to make sure that the program will run on your system. The C64 programs will also run on the C128 in C64 mode. Also note that neither VIC20 program works with the **VIC Emulator**. And none of the C16 or Plus/4 programs run on the C128, although PRGs on the Spinner may.

```
READY.
■
```

Notes On The Spinner:

The **Spinner** is the companion disk that goes with the **Flyer.** The programs in the **PRG** section are found on the **Spinner.** Programs found within the pages of the **Flyer,** like those found in **PAPSAW,** will also be found on the **Spinner.** The **Spinner** also has programs that were too long to appear in the pages of the **Flyer**.

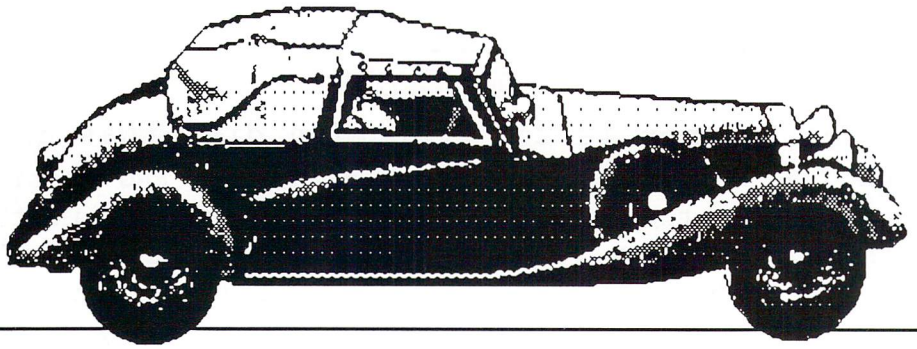
The **Spinner** is not a stand alone product. It is *NOT* a magazine on disk. At present, it has no operating system (although we have one in the works that will run on *all* machines). It was originally intended to be for those who don't like to type in program.

While it will always fill that bill, it is growing. We are installing text files on future **Spinners**, whenever there may be some confusion as to what a program does. In the mean time -- when in doubt, *read* **PRG.**

This month's **Spinner** is a two disk set, featuing the PRG found here, the programs listed on page 23 *and more!* The Spinner, P.O.Box 392, Boise, ID, 83701-0392. $5 -- U.S. funds, $8 -- Canadian funds.

from the edge of the world

dieHard the Flyer for commodore 8bitters



dieHard
P O Box 392
Boise ID 83701-0392

BULK RATE
U S POSTAGE
PAID
BOISE. ID
PERMIT NO. 492